Housing for Europe - Strategies for Quality in Urban Space, Excellence in Design, Performance in Building gathers the results of the Urbact II Working Group “Hopus – Housing Praxis for Urban Sustainability”. It is a multi-disciplinary reflection on urban development, encompassing strategies, governance models, guidance instruments and assessment tools, all considered in the wider framework of current European policies on the city, housing and building technology. The looking glass of a two-year transnational exchange project, bringing together universities and local administrations, allows us to understand the great challenge lying ahead in the 21st century: the quest to create cities which are beautiful, healthy, and attractive places to live.

www.urbact.eu/hopus
Housing for Europe
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Strategies for Quality in Urban Space, Excellence in Design, Performance in Building
The Urbact II Operational Programme 2007-2013
Working Group HOPUS - Housing Praxis for Urban Sustainability
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Housing for Europe
Strategies for Quality in Urban Space, Excellence in Design, Performance in Building
edited by Carola Clemente and Federico De Matteis

This book was partly financed through
European Regional Development Funds

Translations
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Graphics and layout
Typo Srl, Rome

© 2010 DEI – Tipografia del Genio Civile, Roma
www.build.it
Tutti i diritti riservati
ISBN: 978-88-496-2511-0
Finito di stampare nel mese di aprile 2010
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European Cities: A Brighter Urban Future?

The history of Europe is a history of cities: these are the places where everything took place, arts and inventions, philosophy and trade, wars and revolutions. They are the very embodiment of European culture, and have played this crucial role for centuries. For a long time they have also been the designated place of beauty: beautiful places where monuments and cathedrals acted together with ordinary houses, giving life to amazing streets and squares where people lived and thrived. Even the 20th century, with its convulsive history of splendor and destruction, saw cities flourish and grow. But while planners and architects were inventing new ways to build and experience urban space, something else was happening: for the first time, cities were growing out of control, becoming large and complex conglomerations where true urban space was absent, the environment was heavily damaged, and which were very difficult to govern.

This is our European urban present, a mixed-feeling situation where our extraordinary city cores are surrounded by anonymous city crowns, where quality goes from high to low, and beauty has often left the ground. Is it possible to take action against this urban decadence, imagining innovative ways to build and govern the city, allowing both new developments and the transformation of the existing to achieve a high quality? Does a European urban tradition still exist? Will Europe be able to strive for the aims of the Leipzig Charter, which calls for our cities to be the driving force behind our future?

Housing lies at the heart of urban space, and our project studied the ways in which good residential design can lead to the creation of a good city and vice-versa. There are few things as tightly connected to local culture as dwelling, while at the same time referring to universal matters embodied in human beings. In some ways, understanding this double nature of housing means capturing the very problems of a large, diversified community such as Europe, constantly seeking a balance between what is common to everyone and what is specific to each person. We know that Europe aims to be the place of differences, a community of cultures and people who have joined forces to move together in one direction and learn from each other. The cities in our continent well represent this: different traditions, different ways
of building urban space, some successful, others less so, but with a common intention to improve what we have now. The will and ability to learn and understand is the greatest enrichment which different – and at times very distant – realities can gain from each other. This is what our Hopus project has been all about: understanding. There is no way we can transport a good urban practice as it is from one place to the other: for cities are made of people and places, and you cannot change either as if by sheer magic. But we can understand the logic behind this good practice, and try to devise a gradual change in our own way of doing things, interpreting what has been done somewhere else in the light of our local reality.

What the Hopus project has been capable of understanding is that there are, today, good ways of building the city, of designing housing, of achieving a sustainable urban development through intelligent construction. But the overarching problem is that of merging the general with the specific, the universal with the local: a problem which has so far hindered Europe from truly taking action in this direction, since it could, in doing so, betray its very nature of harboring difference and specificity. It is no easy task, and the road ahead promises unparalleled complexity. Nevertheless action must be taken, and the Leipzig Charter was a first, important step in this direction: it is the promise of a brighter urban future for Europe, and its coming implementation, in the hope that it will be as far-ranging as possible, is a challenge we must all contribute to winning.

The two years during which Hopus was enacted were a time of learning, and we believe that the result may contribute a tiny piece to the enactment of a better urban future for Europe. It was the shared effort of many people, whom we thank for their support and contribution: the whole Urbact II Secretariat, who led the way and made a fruitful exchange inside the programme possible; our Thematic Pole Manager Philip Stein, who followed the project’s development from the beginning, providing precious advice all along the way; the many friends from other Urbact projects with whom we had a chance of exchanging views and experience; our project partners, who worked with us throughout the not-always-easy development of the project: Manuela Almeida, James Arnold, David Kemp, Piotr Lorens, Martino Milardi, Deborah Pennestri, Saverio Putorti, Milly Tambach, Gabriela Rembarz and all the people on their teams; our lead expert Matthew Carmona, who gave us invaluable insight into the project’s content; our administrative staff and our communication officer Manuela Pattarini; and, last but not least, our lead partner project team, who created Hopus from the very ground up and worked incessantly on it for two years: Carola Clemente, Livia De Andreis and Federico De Matteis.
1. Buying food vs. buying a place to live

Imagine yourself standing in a supermarket, in front of the meat counter (Fig. 1). Countless tidily packed containers are neatly laid out in refrigerators, each enclosing, under a thin transparent plastic film, their succulent content. Beef, pork, chicken, turkey, are proudly displayed in rows under a friendly, color-emphasizing light, ready to be picked up by the shopper and carried away in a cart. How can we make our choice amid this mouth-watering arrangement of gastronomic wealth? Our eyes allow us to make a good deal of decisions in the first place: is the meat red enough? Is there too much fat? Does the food look alright? But often this is not enough: we need to know if the meat is fresh, how long it has been sitting in the counter, where it comes from, or, in other words, if it will hurt me if I eat it. European regulations set clear rules regarding food labeling: a consumer must be able to easily gather pieces of significant information related to the product’s wholesomeness. The labels on the packages therefore report dates, country of origin, etc., allowing me to make an informed decision.

Nowadays, most fresh foods and a good deal of preserved ones are required by law to disclose the information necessary to make the product traceable. Many others also provide data related to the amount of calories, sodium, fat, etc. the food contains.

In the same supermarket, we can also find another category of products: organic food. Interest in this kind of production has been steadily increasing in consumers and the EU is in the process of outlining a clear reference framework for the definition of “organic”. Why do we
choose organic products, even though they are generally more expensive than normal ones? Because we know that they do not rely on pesticides, GMO’s or other things that might, on the long run, harm our health.

Finally, scattered among the various shelves or refrigerators we can find yet another category of culinary gems: PDO (Protected designation of origin) products. What is that? The EU officially recognizes that some foods are typical of a specific region, and that they are produced following certain well-established, traditional methods. PDO’s tend to be very sophisticated (and accordingly expensive), but they carry in them the message that food is not only nourishment but a cultural expression as well. Originally born to control the production of wine, a DOP label is today the warranty that your Gamoneo cheese was actually made in Asturias, or that the Prosciutto di Parma you are buying was not made from Chinese pigs. All of this points in one direction: quality. Through the implementation of various protocols and labels, the consumer is informed that what he eats will not make him sick, or that it has been produced in a “natural” way, or that it is a culturally authentic gourmandise. Consumers’ health has been at the center of the legislators’ concern while elaborating the various systems, and the entire food industry has embraced them recognizing their strong marketing potential. When “designing” a new product, food companies are not only interested in something which will respond to the public’s taste, but also in what will stand out because of its “quality”. The food market is certainly a very sensible sector, since it directly influences people’s health. But under many aspects, it is not much different from other markets. Even here, market analysis is crucial during the design stage, because no investor would even think of launching a new product which people don’t like. In other words, quality is important, but at the end of the day the food must also be “good”.

Let’s now step out of the supermarket and try to purchase, in the same city where we were trying to buy a hamburger or steak, an entirely different product: an apartment. There is a housing market just like the food market, but somehow things are different here. First of all, the variety. Depending on where you want to live, and on what your budget is, it might turn out that no matter how many different apartments for sale you visit, all of them turn out to be: chicken. And if by any chance you don’t like chicken, then you will have a really hard time putting together a decent meal. Still, with some perseverance, you might be lucky enough to find an apartment that suits your needs and that you can also afford. Maybe you would have liked to live in a building which looked a little more “typical”, and not just like all others. But those were either very expensive, or felt somehow “fake”. Still, you now have a roof over your head. But here emerges another problem: as soon as you step outside, you find yourself in a barren urban void, crossed by unfriendly highways where cars reach tantalizing speeds, trees are a distant memory, sidewalks are reduced to the mere essential and, most of all, there is no one around. At night, the last thing you want to do is take a walk in your neighborhood – since there is no neighborhood at all – and to get “somewhere” you must either drive the car out of the garage or wait for some form of public transportation to carry you there. In other words: the chicken was good, but there were no potatoes in the plate (Fig. 2). And after some time, other issues start
coming up, like your energy bills, which impact heavily on your budget. The apartment is freezing in winter, and scorching hot in summer, so you turn up the heating and end up installing an ugly air conditioner. Other apartments you saw before buying yours were sold as being energy efficient: but again, they were expensive. Furthermore, there is less air and light in the apartment than you expected, and even the view is not that great. Finally, a happy event comes along: your family is growing. So you ask a friend from high school who is now an architect to find a way to carve out a new room in the apartment. But there is very little to do: the structure, installations, and fixtures are very inflexible, and the transformation would become horrendously expensive. So in the end you decide to move out to a suburban area, where you buy a single-family home on a tiny plot of land. Here you will need to ride to work every day, but at least it will be a better place to raise your kids. Anyway, you never really felt at home here.

It turned out that the apartment you bought was not good for your health, maybe not affecting your physical condition, but certainly not benefiting your psychological one. In retrospect, too many things regarding the good you were buying were not disclosed to you before: would you have purchased a steak under the same conditions?

2. The problem of defining quality

Lack of variety, the absence of urban space, poor energy performance, low indoor quality, reduced flexibility: these are only some of the problems the average user can meet. This parable – which could have taken place pretty much all over Europe – tells us one thing: the housing market is, unlike the food market, a very unregulated sector. Many of the problems our fictional character experienced could have been avoided if only he had been put in the position of making an informed decision when buying a place to live. With the exception of energy and environmental labeling, which are spreading in practice throughout Europe, all other factors adding up to quality are only very rarely accounted for, and the average user is generally unaware of them.

Why is European legislation so backward in terms of urban and housing quality, especially if compared to other sectors such as food?

Possible reasons could include:

- If the impact of food quality on health is very direct, the same cannot be said in relation to urban and housing quality. Nevertheless, the long-term impact on the physical and mental health of the individual and on the environment is a scientific fact;
Urban and architectural quality is, arguably, more difficult to define than in other sectors, since only few aspects can truly be quantified, while the majority remains subjective and connected to cultural factors;

The housing market itself is not dynamic: if a consumer can easily compare products in other sectors and rapidly determine which one he finds more suitable, it is not as easy for him to compare different housing solutions. Consumers are therefore led to opt for well-known alternatives, stifling innovation;

Housing developments in Europe are today mostly private, little public (De Mattels 2008: 15). Introducing strong regulations would therefore mean orienting the market, which is something the EU tends to avoid;

It is not the market alone which leads to greater or lesser quality: local authorities play a fundamental role in its achievement. Directives on urban quality could outline some objective factors connected with the building industry, but be unable to impact on the governance models.

For these and various other reasons, the EU does not consider housing – or at least the individual dwelling – as something within its competence, so much so that social housing is generally excluded from ERDF funding. Nevertheless, recent modifications (Regulation (EC) No 397/2009) allow up to 4% of total ERDF allocation to be used for the improvement of energy efficiency in the existing housing stock. The reduction of housing’s carbon footprint is recognized as a priority, since it can be immediately quantified in terms of CO2 emissions: but what about other, fundamental aspects, which, although of less immediate evidence, may bring on the long run to a real improvement in environmental quality?

Sustainable building is indeed at the heart of current EU policies. Besides the wide-ranging effort related to the 2002/91 EPBD directive, a clear declaration of interest in this sense, the recent Lead Market Initiative1 further stressed the importance of the sustainable building sector in the development of European economy. The Commission’s mid-term report published in September 2009 (SEC (2009) 1198 final) identifies the progress achieved in relation to a set of specific actions intended to promote green building throughout Europe: attention is paid, among others, to the screening of national building regulations, the recasting of the EPBD directive, the implementation of Life Cycle Costing (LCC), the introduction of 2nd generation Eurocodes, and various strategies for the skill upgrading in the construction sector. Environmental and technological quality is being strongly promoted: urban and architectural quality lies all around this, but it seems that somehow there is a major difficulty in “bridging the gap” between the two faces of the same medal.

The problem of urban and architectural quality is likely to lie in one fundamental aspect: it is very difficult to measure it. Energetic consumption is a very straightforward quality indicator: the lower, the better. In urban and housing matters, what is good for one individual may be bad for another, and vice versa. Furthermore, it is possible that a housing development checking positive to a good number of quantitative indicators may still, in the end, turn out to be a rather bad place to live. In housing matters, 1+1+1 could sum 0. The lack of reliable measuring tools often proves ruinous for housing developments. If a centralized form of quality control over housing is absent, then other “tyrannies” are likely to take over, propelling the developments in potentially unwanted directions (Carmona 2009: 34).
A silent urban revolution

May 2007 saw the publication of the Leipzig Charter, the first EU-level document somehow addressing the quality of urban space and promoting a principle of integrated urban development. About two years later, the implementation of the Charter still to come (in part because urban development has been slowed down by the global economic crisis) criticism regarding its contents has been abundant, claiming that it is a very generic document, little more than a pamphlet, that it is too oriented towards large metropolitan areas, while it leaves aside the problems of medium and small cities, that is does not consider the factual consistency of a continent made of sprawling cities, and that it puts too much effort in hailing the strong city cores, and finally that it is too German-centric. In any case, a true “European urban quality policy” is still absent, although, undeniably, some form of “urban agenda” is already present.

Notwithstanding this, the fact that the problem of urbanity seems at least to have been taken into account for the future, competitive development of Europe vis-à-vis what other geographical areas can offer (hence the Leipzig Charter’s implicit insistence on traditional urban models), the interest in housing is actually limited to its energy performance and very little else. This is the more surprising given that the last decades have witnessed, on behalf of some national and local administrations, a thorough process rethinking the way new developments are designed and carried out. It is enough to briefly consider the synthetic housing case studies presented in this volume to understand one thing: that good practices can be considered those creating a stringent relationship between urban space and buildings, considering the two elements as necessary to achieve a truly high quality standard, also in relation to environmental performance. We know that a well-designed urban space is often enough to ensure the outcome of a new development, and that the quality – not to speak the aesthetics – of the individual buildings are maybe of minor importance in this respect. Nevertheless, excellence in design emerges only when both urban space and the buildings framing it have been conceived with a common, strong underlying logic.

A silent “urban revolution” has been taking place throughout Europe, where the last twenty years have witnessed the revision of city models inherited from the past, combining the findings of early and late 20th century urban design into new, convincing models. For the first time in about a century there seems to be a paradigm related to urbanism not too heavily influenced by ideology: the city is no longer the theater of class struggle or a romantic, picturesque backdrop for historicizing buildings. Count-
less cases of well-conceived developments, based on sound pragmatism, a reasonable understanding of ecology, merged with an intelligent invention of new aesthetic models have been realized. Practice, it seems, has overtaken policy (Figg. 3, 4).

That this housing renaissance is effectively taking place is also attested by the increased interest presented by academic and research institutions throughout Europe: after decades of reduced attention, where the main focus was shifted to public buildings, monumentality, and architectural language, a growing number of publications is trying to chart the development of housing at the European level, and research networks and associations are becoming more and more vital.

Nevertheless, this proliferation of good practices still remains marginal in respect to the vast, sprawling, low-quality growth which most European cities have experienced during the past decades and are still undergoing today. Yet the tools to avoid this catastrophic process, as we have seen, exist: how is it possible that no action is taken to prevent the consumption of one of Europe’s most precious resources, i.e. space?

Finally, the buildings: again by working on a revision of modernist models and housing solutions, reconsidered under the light of sustainable design, a new, consolidated landscape of residential building has emerged. Since it does not represent the mainstream of today’s urban development, it has gone largely unnoticed, especially at policy level. Is it possible that this fertile production of quality urban design and architecture has left little or no trace in the European legislators’ action?

4. Housing quality by design: a primer

Clearly enough, housing is a very cultural issue: this accounts to a good extent for the fact that no supranational agency is willing to enter this domain, lest it lose its super partes attitude. Energy, on the other hand, is a fairly universal issue, and therefore it becomes quite simple to legislate on that, at least by defining homogeneous calculation methods.
Nevertheless, considering to what extent urban and housing design has changed and how many groundbreaking innovations have found their way into common practice, it seems peculiar that such wealth of knowledge should be neglected at EU level. Matthew Carmona’s contribution earlier in this same volume outlines a number of general criteria which can be considered vital to leverage urban quality in new residential developments, analyzing how a specific form of design guidance, design coding, can help streamline the process of achieving such quality.

Successful housing design cannot do without good urban design: no matter how good a residential building looks/feels/functions/interacts with the environment, it will only be sustainable (environmentally, socially, economically, etc.) if it is part of a larger, organic whole. Once we get down to the building scale, it is in fact possible to identify a number of specific aspects, starting from the threshold of urban space up to the intimate interior of private apartments, which enable such developments to acquire high quality.

What are the key aspects we are speaking of?

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<td>B.1. Relationship between interior and exterior space should be guaranteed</td>
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<td>A.2. Typological assortment should be extended</td>
<td>B.2. Individual dwellings should have access to private or semi-private exterior space</td>
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<td>A.3. Universal accessibility should be maximized</td>
<td>B.3. Environmental behavior should be appropriate for local climate</td>
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<td>A.4. Common spaces for special uses should be made available</td>
<td>B.4. Energy consumption should be reduced</td>
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<td>A.5. Building construction should ensure durability and ease of maintenance</td>
<td>B.5. Adopted building materials and techniques should reduce environmental impact</td>
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<th>C. AESTHETIC ASPECTS</th>
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<td>vis-à-vis the exterior space</td>
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<td>D.3. A clear distinction between public and private space should be achieved,</td>
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<td>D.4. Dwelling interiors should provide sense of comfort (in relation to spatial</td>
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<td>layout and materials)</td>
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<td>D.5. Adequate natural lighting and ventilation should be guaranteed</td>
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The Housing Quality Mesh

- **A. Functional aspects**
  - A.1. Flexibility
  - A.2. Typological assortment
  - A.3. Universal accessibility
  - A.4. Presence of common spaces
  - A.5. Durability and ease of maintenance

- **B. Environmental aspects**
  - B.1. Relationship between interior and exterior space
  - B.2. Access to public space
  - B.3. Appropriate environmental performance
  - B.4. Reduction of energy consumption
  - B.5. Building materials and techniques

- **C. Aesthetic aspects**
  - C.1. Recognizability of individual buildings
  - C.2. Balance between variety and homogeneity
  - C.3. Engagement with local context
  - C.4. Building massing
  - C.5. Formal aspects vs. functional requirements

- **D. Psychological aspects**
  - D.1. Sense of identity
  - D.2. Sense of security and protection
  - D.3. Distinction between private and public space
  - D.4. Design of comfortable interiors
  - D.5. Indoor lighting and ventilation
The 20 key points listed above outline a possible reference framework for quality in housing design, ranging from the relationship of buildings to urban space to the interior aspect of individual residential units. These key factors are tightly interdependent, providing in fact a complex “quality mesh” (Fig. 5) where no one aspect can actually be present in absence of several others. Furthermore, we can distinguish a gradual passage from the objective to the subjective, from what can be generalized to what must absolutely framed in a local cultural, social, economic, climatic context. Functional and environmental factors, being mostly related to measurable, statistical indicators, tend to be more objective; aesthetic and psychological factors, which are connected to the cultural sphere, demand a far greater adaptation to context. Clearly enough, it is difficult to imagine how a field so deeply influenced by cultural factors such as housing can be schematized in 20 – or for that matter 100 – single points. What is considered good in Greece may be abhorred in Denmark; the very starting situations – just consider how different European cities are among them – can actually invalidate this outline of housing quality. Nevertheless, we might consider how many of the above-listed issues can truly be said to impact positively on housing – or at least on urban, collective housing – throughout Europe and also beyond. What we are trying to produce here is not an “arithmetical mean” of all positive aspects of housing, which could become an unusable, theoretical contraption: on the opposite, the criteria we have listed should each be considered as a starting point for a local interpretation, to be carried out before any possible process of implementation. So let us take a closer look at each of these criteria, in the attempt to understand what quality in housing is all about.
A. Functional aspects

The functionality of housing units has been one of the main aspects of the modernist revolution. The need to reduce the average dwelling’s surface in order to contain building costs was seen as the occasion to rationalize the apartment’s interior. Today we have inherited not so much the individual solutions, which have by now almost reached a century of age, but rather the method for optimization, now also based on a strong industrialization of furnishing components. What early 21st century housing should offer in addition to what rationalist elaborations produced is:

A.1. Flexibility

A generic term indicating the aptitude to being transformed intrinsic in a dwelling. A residential space (or an entire building) can be used in different ways throughout the day (maybe as a home-office or a nursery during the morning, and as a regular dwelling in the afternoon and night); use can change over the seasons (the presence of greenhouses, winter gardens, or various exterior spaces can lead to a different spatial use during summer and winter). Finally, a dwelling should be capable of being transformed after a certain number of years, if the living conditions of the owners demand so (i.e. change in number of inhabitants, change in ownership, etc.) The possibility of increasing or reducing the dwelling’s size, of modifying its layout is bound to the load-bearing structure, and to the type of technical installations used. Some technologies consistently prove more flexible than others.

How can this aspect be achieved? Building solutions allowing flexibility should be privileged; designers should develop various alternatives for each dwelling type, providing proof of the transformation potential, also bound to controlled building costs.

A.2. Typological assortment

Closely connected to the previous point, typological assortment represents a clear evolution in relation to modernist standards for interior design. Well into the 1980’s, apartment layouts were often based on a single model considered to be optimized at least at local level. Variations were limited to changing apartment sizes, and the increase was usually limited to the sheer addition of rooms. Today, the varying assortment of dwelling typologies has become the norm in a number of contexts: in some Dutch developments, for instance, it is not uncommon to find more than 100 distinct layout solutions. These can respond to the demand of very diversified social groups (single parent-households, singles, elderly, communities, temporary residents, etc.), reflecting the dynamically changing structure of society.

How can this aspect be achieved? This is a mere design aspect: designers should be expected to produce numerous variations on dwelling layouts, meeting the expectations of users / presumed future users.

GWL Terrein, Amsterdam: Block 8 by W.J. Neutelings.

Typological assortment ensures a large functionality for different user classes.
A.3. Universal accessibility

National regulations throughout Europe define accessibility for special need groups, such as elderly or persons with reduced mobility. Nevertheless, a condition of reduced mobility can also be temporary (illness, presence of infants), calling for an easy access for all residential units. Although this contrasts with the traditional multi-level housing solutions widely adopted in some contexts, it is clear that accessibility means more than just absence of stairs: it is the possibility of free movement within a given space, allowed by an accurate dimensioning and ergonomic functionality of the interiors.

How can this aspect be achieved? Applicable accessibility regulations must be enforced; in addition, transit spaces such as staircases, corridors, entrances, etc. should not be minimized, in order to guarantee flexible and unhindered movement.

Piraeus building in Amsterdam by Hans Kollhoff. The use of large windows allows a flexible seasonal use of the winter gardens.

A.4. Common spaces

Collective housing is by definition the aggregation of individual residential units inside buildings: inhabitants therefore share some common spaces, such as all those granting entrance to the apartments. Although this can be hardly planned, there is always the chance that a sense of community be established among owners or tenants. This clearly depends on many distinct factors and, to a good extent, on chance; nevertheless, it is a potential which sensible architectural design may in fact foster. The presence of common spaces is important to host activities organized by inhabitants: these spaces can be designed to meet, spend time together, provide some larger room for children to play, etc. It is however quite important that these spaces be as little characterized as possible, since given the near impossibility of effectively foreseeing their use, it is likely that they will be inhabited in very distinct fashions. Flexibility is again the keyword, so that a room can become meeting hall, home theater, storage room, common kitchen, bicycle parking, utility room and workshop, etc., depending on the collective needs of inhabitants. In the worst-case scenario, if no communitarian identity eventually forms, the spaces can be still reverted to overflow storage.

How can this aspect be achieved? A flexible, multipurpose space should be identified for each minimum aggregation of inhabitants, allowing them the freedom to use it the way they prefer.

A.5. Durability and ease of maintenance

Quite evidently, the durability of a residential building is bound to its construction and finishing materials. Considering the issue the other way around, a building becomes durable once it is correctly used by its inhabitants. This aspect is also connected to the units’ tenure, since owners will obviously go about more carefully with their belongings than tenants. Social housing has always been subjected to varying degrees of vandalism, but this phenomenon has been significantly reduced by the practice of mixing tenures and income levels within residential developments. Nevertheless, the use of some building devices such as screenings, shadings, and other movable parts can, if not accurately designed or executed, lead to malfunctions. In particular, low-energy housing usually requires, to correctly function, a certain degree of interaction on behalf of users: this increased complexity can at times become a hindrance to full functionality.

How can this aspect be achieved? Adequate choice of building materials and components, minimization of complex building parts, design of easy “operation” on behalf of inhabitants.
B. Environmental aspects

The environmental performance of buildings is today largely intended under the two-fold principle of reducing the impact of a building on its site, and minimizing the consumption from non-renewable energy sources. Although both interpretations are of fundamental importance for the achievement of sustainability, they clearly refer to a technological viewpoint. Sustainable design also encompasses the ability of a building to engender sustainable behavior in its occupants.

Environmental aspects are also fundamental for the achievement of an overall high quality in residential developments, given that for environment we can understand both the natural environment as an abstract whole, and the immediate setting of the building, providing the physical ground and context for its edification.

B.1. Relationship between interior and exterior space

Few architectural elements are arguably as universal as the relationship which a dwelling sets up with the exterior surrounding it. This relationship can be more or less mediated by the building’s boundary, in relation to how windows are designed and dislocated, and depending on the effect of continuity or separation which must be achieved. Introverted and extroverted dwelling spaces can be alternated within the same residential unit, establishing a diversified condition; otherwise full permeability or extensive enclosure can be proposed in presence of specific contextual factors (e.g. particularly enticing surroundings offering good exterior views, vs. negative settings calling for a greater degree of separation). Far view vs. close-up view constitute two alternative quality factors strongly influenced by cultural aspects. Although the relationship to site features is conditioned by the urban layout, the way the buildings are crafted can contribute strongly to the definition of this particular aspect. Furthermore, this factor is a prerequisite for many others influencing the quality of indoor space, such as natural lighting and ventilation.

How can this aspect be achieved? On the basis of well-conceived site planning, it is up to the designer to create continuity or discontinuity with the exterior space. Positive effects can be achieved through the skilled use of glazing and flooring, removing physical and visual barriers between inside and outside.

La Mola Conference center in Barcelona by b720 Arquitectos. In warm climates the primary need is that of creating appropriate shading devices.

B.2. Access to exterior space

Exterior spaces in their different declinations can again be considered to be a quasi-compulsive requisite for contemporary housing design. Private exterior spaces such as gardens for ground-floor dwellings, balconies, loggias or terraces for upper-floor dwellings not only increase the functionality of the interior space, they also in various ways improve its environmental performance. Many housing developments throughout Europe introduce a gradual sequence from public space to semi-private space, treating the latter not only as a passage towards the private interiors but also as the location for specific activities, most notably children’s games. Besides the possibility of using a common exterior space, most apartments still can avail of a balcony or loggia, fundamental functional extensions of the interior.

How can this aspect be achieved? Shared interior spaces can be realized through some specific urban layouts (block housing, open-block, linear slabs with private enclosure, etc.). Loggias and balconies are design choices, if correctly used they can improve a building’s energetic performance, and represent important volumetric elements for the massing of the buildings.

Housing by Thomas Herzog in the Linz-Pichling Solar City, Austria. Sustainable construction in cold climates is characterized by compact building envelopes.
B.3. Appropriate environmental behavior

Sustainable housing’s first large-scale diffusion took place, starting in the 1990’s, in Europe’s northern nations, in particular in Germany, Denmark, and Austria. For a long time, before sustainable design methods and practices became well-known, and software for building performance calculation started to become easily accessible, the northern European model spread throughout Europe (and beyond) with little possibility of keeping the actual results under control during the design stage. The results were often problematic, given the dramatic climatic differences which can be recorded between the various geographical areas in the continent. Today, it is well known that in cold climates the main problem consists in preserving heat loss, thereby keeping compact building envelopes with limited openings, whereas in southern climates the main issue is that of preventing overheating by adequately shading the buildings’ surfaces. All this also accounts for major differences in the formal language that sustainable housing acquires in different regions, hinting towards the possibility of generating a regional character of sustainability.

How can this aspect be achieved? Energy performance must be simulated in advance through the use of specific software and with exact reference to local climate. The production of a site-specific image can and should be sought through the implementation of sustainable building techniques.

B.4. Reduction of energy consumption

Of all aspects related to contemporary housing design, this is probably the most straight-forward and easily quantifiable, since it refers to measurable amounts of energy consumed by a building or household. Directive 2002/91/EC of the European Parliament and of the Council of 16 December 2002 outlines rules and criteria for the measurement, delegating member states to identify application protocols. In the seven years since its promulgation, the EPBD Directive has been successfully implemented in several member states, and is in the process of being adopted in others. Nevertheless, an ongoing negotiation concerning the Directive’s revision has been showcasing disagreement between member states on a number of issues, such as methods for calculation of heating energy, the definition of “low-energy” housing, the introduction of compulsory incentives for sustainable building, or the proposal by some member states that all housing should become zero-energy by 2019. Behind these discussions lies the non-negligible fact that building highly efficient buildings is actually expensive. If this might not be a problem in times of economic growth, it does establish a major setback during stagnation. Despite these obstacles, the field of energy reduction is still the one where EU legislation is more advanced in relation to the housing sector. The buildings’ orientation plays a fundamental role in the optimization of energy performance, and it also becomes relevant in terms of site layout and building morphology.

How can this aspect be achieved? Follow the national implementation laws for the EPBD 2002/91. Building orientation should be studied to optimize performance while not stifling urban layout.

B.5. Choice of building materials and techniques

The environmental impact of building materials and components is determined by their entire life cycle, therefore including the raw materials’ origin, transformation process, transport, assembly, demolition and recycling. The widespread use of recyclable building materials is still to come, given the building industry’s intrinsic inflexible nature, but more and more producers are carrying out significant research efforts to improve the environmental qualities of their materials. In 2003 the EU CRISP network collected a database of over 500 indicators related to construction and urbanism; ISO 14000 sets standards for products’ environmental performance and life cycle. In the meantime, however, popular labeling systems such as LEED or BREEAM are “overtaking” the European effort on the definition of the environmental quality and performance of materials. Finally, the practice of “green” building sites, which are sustainably organized and managed, represents a further frontier for the reduction of environmental impact in the construction sector.

How can this aspect be achieved? During design phase low-impact materials and techniques can be selected by referring to existing ISO certification or environmental protocols. Building site management can be devised in order to reduce environmentally disruptive practices, especially when working in inhabited locations.
C. Aesthetic aspects

The aesthetics of buildings can at times be considered a negligible aspect when it comes to large-scale developments; nevertheless, the importance of aesthetics which must be stressed here is closely connected to the perception of space, to the act of recognizing, and to many other factors which intrinsically influence the way urban space and architecture impact on users. It is not so much a matter of artistic expression, as of providing a consistent aesthetic landscape, which can efficiently support the users’ integration with the development. Commonplace “pleasantness”, not to speak “beauty”, are out of the question here: the attempt to identify common aspects related to housing may not refer to utterly subjective matters connected to taste.

C.1. Recognizability of individual buildings or of their parts

The users’ ability to recognize a building or a specific part of it plays a fundamental role in ensuring orientation as well as the development of identity. The basic conditions for appropriate orientation are set out through the overall urban design of developments, yet the buildings’ definition is necessary to complement the process at the visual scale. Especially in cases of very large developments, individual buildings should be distinguishable, in order to avoid estrangement.

How can this aspect be achieved? Residential buildings can be varied on the basis of typology, dimension, relationship to the ground, finishing materials, colors, etc. Designers can avail themselves of a wide variety of options to produce distinctive identities for single buildings.

C.2. Balance between variety and homogeneity

In direct relationship with the previous point, it is necessary to strike a balance between variety of expression and homogeneity. This proves necessary to provide a sense of continuity for the urban fabric, which can again become a problematic aspect in the case of large developments, where buildings are designed by different architects on the base of a given master plan. To this end, specific guidelines such as design codes can prove particularly efficient, since they can outline possible variations within a set of preferable solutions.

How can this aspect be achieved? In the case of large developments based on the use of master plans, design codes or other forms of guidance can encompass variation within a homogeneous system. For smaller developments, which are likely to be carried out by individual designers, it is up to their sensibility to devise a homogeneous, harmonic overall image.

St. Josephhof, Nijmegen, Netherlands.
Mecanoo Architects use simple variation of material to induce diversification within homogeneous construction

Parc de Bercy, Paris.
The redevelopment engaged the former agricultural character of the area
C.3. Engagement with local context

This point presents a high level of complexity, since the very concept of “local” is unclear, leading to its being heavily challenged by a significant part of architectural culture. Local context implies on the one hand specific typologies, building solutions and materials; on the other, it signifies the establishment of a meaningful relationship between buildings and site. Urban design acts in this sense by considering pre-existing site features, and including them in the new development’s strategy; residential buildings realized on the basis of master plans conceived with this kind of attention will benefit from it. Engaging context also means identifying ways to connect a new development with an existing urban fabric, be it designed or spontaneous, establishing a functional and aesthetic link to the pre-existing city. Nevertheless, successful solutions can also derive from contrasting design choices: closed urban structures (e.g. those based on the use of residential blocks) could benefit from the juxtaposition of layouts emphasizing open settlement structures, etc. The use of a limited set of building or finishing materials as a means of engaging context cannot be imposed on designers unless it is done in the framework of design guidance, since it would reduce expressive freedom. A particular case can be considered for new developments in historic contexts: here decisions must be assumed by local administrations, including superintendent authorities for architectural heritage.

How can this aspect be achieved? Continuity with established urban fabric can be orchestrated at both the urban and architectural design level. Use of widespread, traditional building materials can be considered, with the caveat that it is not sufficient by itself to actually engage context.

C.4. Building massing

The massing of buildings represents one of the main factors impacting on urban spatial perception. Volumes with excessive height, insufficient distance between each other, or appearance of great density can reduce the users’ capacity to appropriate the urban space, besides causing harmful effects of the overall environmental quality. Recent housing developments throughout Europe have largely pointed on low-rise, high-density patterns, a solution proving economical in terms of density while creating well-dimensioned open spaces. In cultural contexts where the “open-view” factor is not of paramount importance, this kind of development can prove successful; on the contrary, if wide-ranging views are to be privileged, the increase in building height still provides a reasonable solution.

How can this aspect be achieved? The accurate study of layout and density in the urban design is crucial for the definition of well-balanced building massing.

C.5. Formal aspects, functional and energetic requirements

The rise of sustainable housing design in the 1990’s originally prompted the introduction of a wide range of technological systems and building components strongly characterizing the buildings’ appearance. Subsequent elaborations have to a good extent smoothened the harshly technological “language of sustainability”, yet still today residential developments are often strictly governed, under the formal viewpoint, by energy concerns, at both the urban and building scale. Since the formation of a densely settled urban fabric not always matches the need for optimal orientation (e.g. in the case of iterative linear blocks seeking full solar exposition), it is necessary to identify a balanced condition between functional, energetic and formal requisites. Also at the building scale, a similar balance can lead to well-crafted solutions in terms of morphology and massing.

How can this aspect be achieved? Designers should attempt to achieve image neutrality, avoiding the use of overly characterized technological elements. In residential building, most energy requisites can be resolved through the implementation of visually neutral components and materials.
Psychological wellbeing in relation to housing can be asserted on the basis of statistical indicators referring to overall health aspects (2). Clearly enough, it is difficult to pinpoint quality through indicators alone, since these tend to highlight mean values, whereas a very subjective issue such as psychological wellbeing changes in relation to cultural, social, economic, age, gender, and ethnic aspects. Environmental psychology studies have abundantly highlighted the relationship existing between human beings and their environment, yet only a fraction of these has already found widespread implementation in design. As the most subjective and elusive category of “quality by design”, psychological wellbeing cannot easily be reduced to a basic set of criteria; nevertheless, an attempt must be made at highlighting those factors which can reasonably be considered as extensible to a wide territorial, social and economic context.

D.1. The sense of identity

Residential areas possessing a strong sense of identity often do so for reasons lying far outside the realm of design: identity can derive from history, traditions, social cohesion, and many other factors still. It is nevertheless common knowledge that developments are described by users through the use of anthropomorphic adjectives such as “friendly” or “hostile”, referring in doing so to a complex tangle of factors ranging from urban layout to architectural forms, from social mix to the perception of safety etc. The sense of identity can in fact derive from the feeling of belonging to a specific place to the awareness of being part of a certain community: the two aspects are often inextricably linked to each other. How this positive identification can be achieved by design is an overly complex issue, and it is clearly linked to numerous cultural factors. To the extent of their capacity, designers should nevertheless attempt to engage the difficult task of creating housing developments which are likely to engender a sense of identity.

How can this aspect be achieved? The creation of specific identity is a complex task not always fully under the control of designers. A relevant role is played by the balance achieved between formal identity, leading to recognizability, and the attitude of urban spaces, buildings and interiors to be flexibly “interpreted” by users, becoming an adequate setting for everyday life. The adaptation of known and previously experimented residential models can support the process of users’ appropriation of spaces.

D.2. Sense of security and protection

Although this aspect is connected to the individuality of the users, there are nevertheless recurring factors mostly related to visibility. Urban spaces provide a sense of security when they are designed to be “transparent”, i.e. when the user is empowered to have a timely perception of danger when crossing them. Furthermore, overlooked spaces, i.e. those where public control can be exercised from adjacent buildings, tend to be perceived as being safer than blind areas. Visual factors are generally sufficient to ensure the perception of spatial security, as opposed to the presence of physical barriers and enclosures, often causing an unnecessary fragmentation of space. Concerning the dwellings, the problems of security is generally present only for those located at the ground level: in this case the differentiation between heights can contribute to providing greater security and privacy.

How can this aspect be achieved? An adequate study of the visual relationships in open spaces, together with the careful dimensioning of public areas vis-à-vis built fronts and the avoidance of “blind spots” are vital for the achievement of the sense of security. Furthermore, public illumination can greatly influence this crucial aspect of psychological wellbeing. Residential units located at ground level can be raised from the exterior height, or separated from the public areas by external private spaces.
D.3. Distinction between public and private space

This design factor is fundamental to promote a sense of identification in users, foster a sense of privacy and security, while preserving spatial continuity. Thresholds, i.e. objects defining the transition from outside to inside represent a constituent factor in architectural characterization. Nevertheless, they must not represent impenetrable physical barriers, in order to avoid the fragmentation of the urban space. The distinction between public and private should herald the progressive and hierarchical passage from the city as a whole to the neighborhood, from the neighborhood to the user’s building, and from this to the private sphere of the residential unit. How can this aspect be achieved? Marking points of access to neighborhood and individual buildings, characterizing thresholds and places of transition to foster the acquisition of progressively privatized spaces.

D.4. Designing comfortable interiors

The apartments’ interior, as the most private space users have access to, should represent a point of arrival for the above-mentioned process leading from the public, through the semi-private, to the fully private condition. As is the case for the creation of a “friendly” urban space, an interior becomes comfortable when its inhabitants are empowered to interpret it in the individual ways they find more suitable. Environmental psychology plays a fundamental role in this respect, since the widely subjective notion of comfort is determined by spatial, visual and tactile factors, given that the full appropriation of interior spaces if ultimately carried out through individual personalization.

How can this aspect be achieved? Single residential units should provide a gradual hierarchy of extroverted (public) and introverted (private) spaces. Formal aspects should be conceived in order to remain sufficiently neutral. Visual relationships between interior and exterior should be measured to strike a balance between opening and enclosure.

D.5. Indoor lighting and ventilation

Natural lighting and ventilation inside residential units is a cross-reaching factor relevant to energy performance, physical health as well as psychological wellbeing, thus representing a fundamental aspect of design. Adequate levels of daylighting and natural ventilation are related to climatic conditions as well as to cultural factors, making it difficult to pinpoint an optimal amount; nevertheless, they must be accurately taken into account during the building design phase. How can this aspect be achieved? Indoor lighting conditions are determined by building morphology (in particular by its transversal section), orientation, quality of the building envelope, geometry, dimension and location of openings, screening devices, coating and cladding materials. Interior ventilation is also influenced by the layout of the apartment. Detailed design should analyze these factors to determine optimal solutions.
Designing and assessing quality housing

Designing quality housing is a complex issue, since it brings together local authorities, private investors who find the field of residential development very lucrative, and many other stakeholders each aiming at different objectives. In times of economic drought social housing programs around Europe have lost much of their momentum, and are in many cases altogether absent: this is the reason why private developments have taken over, leading to a more or less fragmented urban growth depending on how efficient the local governance model is. The result is a strongly market-oriented city, where housing is offered for sale not unlike in a supermarket. As we have seen, however, the accurate quality control imposed on food products finds absolutely no equal in the housing market, creating a situation where it is difficult for consumers/users to evaluate ahead of time what they are investing in.

Innovative tools in some local contexts characterized by efficient governance models have successfully led to well-designed, effective master plans, often also providing guidelines and indications concerning the further development of the individual residential buildings. Design codes, which are the center of Hopus’s attention, are one of the possible ways of keeping under control the process leading the city-making, while allowing substantial expressive freedom within a homogeneous whole (De Matteis 2008: 28). Matthew Carmona’s in-depth analysis of design coding earlier in the book helps us understand what this sophisticated tool can do for urban development, assessing its strengths and weaknesses, together with the prerequisite conditions which must be in place for the coding process to actually be carried out. Design coding, being a complementary aspect of master planning, is capable of bridging the “gap” between urban vision and building design, guiding designers in achieving a homogenous outcome within a varying range of possibilities. In their site-specific nature, design codes are meant to address individual developments: in the case of a general framework of key quality factors such as that outlined above, it would be necessary to identify an overarching reference system, not connected to specific cases, incorporating the “quality mesh”. This system should on one side be able to provide an output in terms of guidelines, coding, etc., thus acting on the “process”; on the other, serve as the basis for an assessment of the “product”, closing the full circle.

Ensuring quality therefore requires control over both the process and the product. How can the quality of the product be assessed? In analogy to what has been done in other market sectors, most notably again in the food industry, labeling systems have been implemented in the attempt to establish a standard reference framework for urban design and architecture. Labeling and protocols have been especially successful in relation to energy and environmental assessment, since they can refer to standardized calculation methods, as set out by the EPBD 2002/91 directive. This allows a pre-assessment to be carried out by designers, often using specific software tools, whereas the certification is produced by habilitated professionals.

Other forms of certification gaining progressive ground in several national contexts are also closely connected with energy aspects, but include a wider range of con-
considerations related to the overall design, such as the developments’ or buildings’ impact on the site, connection with existing urban infrastructures, accessibility, social and economic sustainability. In this respect, the LEED certification system, created by the United States Green Building Council, and the BREEAM, belonging to the private group BRE in the United Kingdom, are increasingly proposing the their methods as “global” systems of environmental assessment, to be used where local protocols are not available. Although the certification process differs, the quality checklists for both protocols are largely overlapping. Both LEED and BREEAM protocols, being connected to privately operated organisms, are clearly oriented towards a marketing purpose. A developer seeking to achieve a quality certificate does so because he understands the importance of providing a third-party assessment to potential customers: it is like saying that “what you are about to buy will not hurt your health and limit its impact on the planet”. The design effort and the additional construction costs connected to environmentally certifiable developments should in turn produce a marketable good which can be put up for sale at a higher price than comparable, non-certified realizations. For investors, this should be a win-win situation, whereas for buyers who are able to afford it, it becomes the guarantee of higher quality, where the cost difference can be paid back in a certain number of years thanks to the reduced energy consumption of the building.

Analytical certification systems are usually based on checklists: designs are awarded a score on the basis of a varying and generally large number of criteria, ranging from the relationship to the site to the kind of flooring applied in interiors. Certification scores are awarded on the basis of the total number of “boxes checked”, where different indicators are assigned weighed values. Clearly enough, the problem with analytical scoring methods is related to the fact that, although a building may add up a significant number of points, in terms of quality it sometimes happens, as we have stated above, that $1+1+1=0$. Furthermore critics (Bernstein 2010) argue that at times high certification levels are achieved by adding up many negligible or marginal factors, not truly impacting on the overall environmental quality, while fundamental aspects remain substantially unresolved.

In some ways similar to LEED and BREEAM, the German Bewertungssystem für Nachhaltiges Bauen (BNB) is a sophisticated, analytical environmental assessment method devised for the evaluation of public buildings by the German Federal Ministry of Transport, Building and Urban Development. Although it is not applicable to housing design, its methodology is nevertheless interesting, given the wide number of considered quality factors, ranging from energy performance to the design process, from user satisfaction to the artistic value of the building. Each quality point is weighed and the general score leads to the awarding of a sustainability certificate. Differently from the previous protocols however, it is not intended as a marketing tool, but rather as an internal assessment instrument for local authorities for the evaluation of their own building initiatives. The Deutsches Gütesiegel Nachhaltiges Bauen (DGNB), created by the Deutsche Gesellschaft für Nachhaltiges Bauen is a commercial environmental certification protocol with strong analogies to LEED.

Few quality assessment systems have the ambition of covering, albeit in a general way, the entire range of aspects related to urban design and building, in a bal-
anced relationship between environmental and design factors. These are usually those labeling systems connected to public authorities, such as the Building for Life system, promoted by UK’s Commission for Architecture and the Built Environment (CABE) and the Home Builders Federation. Building for Life (whose quality criteria significantly overlap the 20 key factors we have outlined above) is meant to be administered by local authorities only, thus serving as a guidance and assessment tool for planning departments, whose staff members can qualify for training at CABE. Building for Life’s fundamental interest lies in the fact that, in respect to most other labeling systems, it proposes a very balanced relationship between distinct requirements: since its evaluation is synthetic rather than analytic, it does not rely on a simple scoring method, where an outstanding result may be the outcome of a very unbalanced design. Through the lens of the various quality factors, designs are evaluated in their wholeness, without “breaking them up”.

Labeling alone is certainly not the solution to promote good housing; it only becomes efficient once a true quality culture is formed. Nevertheless, it has the potential to play a crucial role within the housing market, by propelling the sector towards a healthy competitiveness, where certified buildings will “stand out” among ordinary practice. Furthermore, labeling can become an indispensable complement to design guidance, assessing both the product and the process.
LEED – Leadership in Energy and Environmental Design Green Building Rating System™

Designed and administered by the United States Green Building Council (www.usgbc.org)

LEED certification is increasingly becoming a popular, “globalized” assessment system for the environmental performance of planning and buildings, and it encompasses a significant number of distinct protocols related to different types of development, such as residential, office, neighborhood development, etc. at both the design and operation level. Each protocol includes a very large number of factors, in the attempt to carry out a “holistic” evaluation of each design. LEED certification was introduced in 1998 and was designed on the base of various existing protocols such as BREEAM. The LEED certification process is complex and articulated in various stages: designers can become LEED-accredited through specific training, operating preliminary assessment; the final evaluation is carried out by the US Green Building Council.

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<td>Infrastructure Energy Efficiency</td>
<td></td>
<td></td>
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<tr>
<td>Conservation Management of Habitat or Wetlands</td>
<td>Wastewater Management</td>
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<td>Recycled Content in Infrastructure</td>
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<td>Construction Waste Management</td>
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<tr>
<td></td>
<td>Comprehensive Waste Management</td>
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<tr>
<td></td>
<td>Light Pollution Reduction</td>
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</tbody>
</table>
The BRE Environmental Assessment Method was set up by BRE and is at the moment the world’s most widespread system of environmental quality certification. Evaluation of registered designs is carried out by authorized assessors, who then submit results to BRE for quality assurance. Although BREEAM’s quality criteria are very similar to those of the LEED protocol, the main difference lies in the fact that the actual checklist is drafted for each individual application, in the attempt to customize the quality assessment on a case-by-case basis. Nevertheless, the increasing number of worldwide application has prompted BRE to devise a system which also includes a number of standardized protocols. At the moment, BREEAM is the world’s most using environmental quality assessment system. In relation to housing design, BREEAM is directly connected to UK’s Code for Sustainable Homes, the national standard for sustainable housing design. Buildings are assessed against nine different environmental quality criteria, which also include minimum standards for energy and water use at each certification level. Starting April 2008, all social housing initiatives in the UK were required to achieve at least level 3 certification with the code, while it remains voluntary for private developments to apply for certification.

The considered criteria are:
- Energy and CO2 emissions
- Pollution
- Water
- Health and wellbeing
- Materials
- Management
- Surface water run-off
- Ecology
- Waste
Building for Life

Designed by the Commission for Architecture and the Built Environment – CABE (www.buildingforlife.org)
Administered by CABE and local planning authorities in the United Kingdom

Building for Life is meant to be administered by local authorities only, thus serving as a guidance and assessment tool for planning departments, whose staff members can qualify for training at CABE. CABE itself provides counseling and carries out assessment for large developments on a voluntary design-submission basis. Nevertheless, several planning agencies in the UK now require a mandatory Building for Life assessment for all new housing developments. Building for Life is a synthetic quality evaluation method, where the 20 fundamental questions are not intended as a scoring checklist but rather as a guide for designers and assessors.

<table>
<thead>
<tr>
<th>Environment and community</th>
<th>Character</th>
<th>Streets, parking and pedestrianisation</th>
<th>Design and construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>01. Does the development provide (or is it close to) community facilities, such as a school, parks, etc?</td>
<td>06. Is the design specific to the scheme?</td>
<td>11. Does the building layout take priority over the streets and car parking?</td>
<td>15. Are public spaces and pedestrian routes overlooked and do they feel safe?</td>
</tr>
<tr>
<td>02. Is there an accommodation mix that reflects the needs and aspirations of the local community?</td>
<td>07. Does the scheme exploit existing buildings, landscape or topography?</td>
<td>12. Is the car parking well integrated and situated so it supports the street scene?</td>
<td>16. Is public space well designed and does it have suitable management arrangements in place?</td>
</tr>
<tr>
<td>03. Is there a tenure mix that reflects the needs of the local community?</td>
<td>08. Does the scheme feel like a place with distinctive character?</td>
<td>13. Are the streets pedestrian, cycle and vehicle friendly?</td>
<td>17. Do the buildings exhibit architectural quality?</td>
</tr>
<tr>
<td>04. Does the development have easy access to public transport?</td>
<td>09. Do the buildings and layout make it easy to find your way around?</td>
<td>14. Does the scheme integrate with existing streets, paths and surrounding development?</td>
<td>18. Do internal spaces and layout allow for adaptation, conversion or extension?</td>
</tr>
<tr>
<td>05. Does the development have any features that reduce its environmental impact?</td>
<td>10. Are streets defined by a well-structured building layout?</td>
<td>19. Has the scheme made use of advances in construction or technology?</td>
<td>20. Do buildings or spaces outperform statutory minima, such as building regulations?</td>
</tr>
</tbody>
</table>
Deutsches Gütesiegel Nachhaltiges Bauen (DGNB)

Designed and administered by the Deutsche Gesellschaft für Nachhaltiges Bauen (www.dgnb.de)

The DGNB is a sophisticated, analytical environmental assessment method devised for the evaluation of buildings in Germany. Its interesting methodology relies on a wide number of quality factors, ranging from energy performance to the design process, from user satisfaction to the artistic value of the building. Each quality point is weighed and the general score leads to the awarding of a sustainability certificate.

The general quality categories considered are:

1. Ecological quality
   - Impact on the general environment
   - Use of natural resources
   - Economical quality:
     - Life cycle costs
     - Leverage capacity
   - Social, cultural and functional quality:
     - Wholesomeness, comfort and user-friendliness
     - Functionality
     - Design process and artistic quality

2. Technical quality
   - Technical execution
   - Process quality:
     - Planning and design quality
     - Quality of the building process
6. In conclusion: bridging the gap for European housing quality

What we have seen so far in relation to EU policy on housing (see also Livia De Andreis’s contribution in this same volume) helps us outline one central problem: what can be quantified can be subjected to regulation at supra-national level, whereas subjective issues connected to local cultural factors cannot. In our understanding there is however a mistaken interpretation of what can be regulated. It is not necessary – or by any means possible – to establish at EU level how housing developments must be organized or what they must look like: these are problems which can only be confronted at the local level. It would however be very reasonable – and in our opinion feasible – to define a common method for the promotion of urban and architectural quality, which must then be interpreted at national and local level. Just like the EPBD directive, and basically all other forms of European regulation, the method is set out at the general level, and it is then up to the single member states to produce their nationally applicable interpretation. In the specific case of urban and housing quality, which plunges all the way down to the very local, site-related, there would be the need for a further step of interpretation leading to implementation, presumably at regional level. In other words, the distinction between objective and subjective quality factors could lead to a three-step process, where the EU sets the general methodology, leaving to national authorities the benchmarking of the objective factors, and to regional authorities the definition of subjective criteria, while keeping the methodology under control all along the way (Fig. 6).

Nothing new must be invented here: best practices such as design coding or quality certification are already in place in many European realities, and the effort required would mainly consist in the coordination of existing pieces of knowledge, allowing for the introduction of common methods for guidance and assessment, to be interpreted at national and local level. This does not mean making all housing in Europe the same, but rather introducing a shared idea of quality which is able to go well beyond the “dryness” of quantitative methods. It is the occasion of effectively “bridging the gap” between

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**Figure 6.** A possible process leading from EU directives on urban and housing quality to national and local implementation
the understanding of energy and environmental quality and the larger, broader, and in our eyes more important understanding of urban quality as a whole.

To conclude, let us briefly return to the comparison between housing and food: what reaches our tables today is subjected to strict quality controls, ensuring the wholesomeness of what we eat, and to a certain extent its authenticity. But will the food, in the end, actually taste good? If the ingredients are quality-certified, isn’t it ultimately up to the cook to concoct an exquisite meal? We can think the same way for housing: environmental certification – which is well under way – can put a label on the individual ingredients, but only through a more comprehensive system of guidance and assessment will we ever be able to produce exquisite urban development in Europe.

7. References


De Matteis F. (2008) Good, Green, Safe, Affordable Housing, Verona, Ipertesto Edizioni

1 http://ec.europa.eu/enterprise/policies/innovation/policy/lead-market-initiative/ (accessed 2010-02-10)


3 The work carried out by the Urbact II thematic network Building Healthy Communities, Lead Partner the City of Turin, with the support of experts Marco Santangelo and Antonella Cardone, focuses on the use of statistical indicators in the planning and assessment of urban transformation processes, identifying specific sets of criteria to be adopted for each specific case. For more in-depth considerations on the use of indicators related to housing development, see Marco Santangelo’s contribution in this same volume.