

The social impact of green urban renewal in two European Capital Cities: Copenhagen and Vienna in comparison¹

Roberta Cucca, University of Vienna, Austria

Abstract

The need for more sustainable cities is a key point of the EU Urban Agenda. Although the attention to social inclusion, especially in the most deprived urban areas, is an important pillar of this strategy, a clear evaluation of the social impacts of sustainability programs in EU Cities is however still missing. This paper aims to fill this gap, by analyzing, in comparative perspective, the social impacts of green renewal in Europe. By selecting as case studies Vienna and Copenhagen and implementing a mixed method approach to empirical investigation (quantitative data gathering; interviews with key informants in cities; ethnographic research in areas of the cities affected by green urban renewal and programs for sustainability; comparative analysis of data and information) the research identifies intended and unintended impacts of these strategies in terms of social and spatial inequality among social groups. The main communalities between Vienna and Copenhagen are the strong promotion of strategies of green urban renewal as asset for attractivity and demographic growth (inner-districts green renewal, waterfront redevelopment, new eco-districts). The most important differences are related to the affordability of the housing market resulting from the implementation of such strategies, a factor that plays a huge role in fostering or containing social and spatial inequalities in contemporary Green European cities

Roberta Cucca, PhD in Sociology (University of Milan, 2006), is *Marie Curie Research Fellow* and teach Urban Sociology at the Department of Sociology, University of Vienna. Among her recent publications: Cucca R., Ranci C. (Eds) (2017) *Unequal Cities. The Challenge of Post-Industrial Transition in Times of Austerity*, Routledge, London

Contact: Institut für Soziologie, Universität Wien, Rooseveltplatz 2, A-1090 Wien; email: roberta.cucca@univie.ac.at

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1. Introduction

Over the last decades, the need for more sustainable cities has been a key point of global strategy for the future, and one of the most important aims of European plans for the urban environment. The European Union is strongly committed in fostering several programs to make cities environmentally friendly, competitive in the global market and oriented to social inclusiveness². However, these aims seem to be difficult to reach at the same time, and sustainability can also be described as one piece of rhetoric; far from being an effective paradigm, being too broad, vague and economically-centered, and with no specific social dimensions clearly set out (Baker, S. 2006; Boström, M. 2012). Increasing, there has been criticism of the concept of sustainability, or rather of the current application of this paradigm, beyond its vagueness and inapplicability. Basically, it has been accused of promoting a sort of green competitiveness in the market economy, while the social pillar of the concept has entered the political agenda to a much more limited extent (Dillard, Dujon and King 2009). Topics relating to social inequality, justice and inclusion have been less integrated into studies considering sustainability (Boström 2012), and replaced by more intangible and less measurable concepts such as identity, sense of place and the benefits of social networks (Colantonio 2008). Traditional themes, such as equity, poverty reduction and livelihood, have been gradually left to the broad and independent literature concerning overlapping concepts such as *social cohesion* and *social exclusion* (Pahl 1991; Littig and Griessler 2005; Ranci 2011).

Recent literature has additionally argued that the concept is suitable to promote unexpected social consequences in terms of unequal distribution of social, economic and environmental resources among citizens (Isenhour et Al. 2015) as well as new spatial inequalities (Dale, Newman, 2009). Investigations of the social implications of urban policies for sustainability has been largely developed in North America and Asia. In Canada and USA a particular attention has been paid to emerging processes of *ecological gentrification* in several global cities fostered by green urban renewal (Barnes and Hutton, 2009; Checker, M. 2011; Lewis and Gould, 2016). It represents one of the most obvious negative results of urban sustainability, combining aspects of ecological modernization and urban neo-liberal growth (Keil 2007). Actually, during the last decade, sustainability has been an effective *urban brand* for cities competing in the global arena, especially in terms of their ability to attract investment, international events, highly skilled workers, tourists and students (Kavaratzis 2004). Positive actions have been undertaken not only in terms of traditional economic competitiveness – by offering advanced capabilities, services, infrastructure and logistics – but also by making the city attractive to high skilled workers and experts (Markusen and Schrock, 2006). Leisure opportunities, artistic and cultural amenities, as well as quality of life and a green environment, are suited to the tastes of the new professional elite (Musterd and Murie 2010). In particular, as far as urban development is concerned, David Gibbs and Rob Krueger (2007) noted a strong correlation between American cities which have prospered in the “new

² *Leipzig Charter on Sustainable European Cities*, agreed on the occasion of the Informal Ministerial Meeting on Urban Development and Territorial Cohesion in Leipzig on 24/25 May 2007; *Territorial Agenda of the EU – Towards a more competitive and sustainable Europe of diverse regions*, agreed on the occasion of the Informal Ministerial Meeting on Urban Development and Territorial Cohesion in Leipzig on 24/25 May 2007

economy” and those which have adopted sustainability policies. Many interventions oriented towards sustainability, such as increasing green public areas and decreasing traffic and road congestion, or promoting green energy systems and alternative ways of recycling, may be considered as factors in the attraction of talent, tourists, and investors. Many international events, such as expositions and world conferences, and also the Olympics and the World Cup, have been assigned by international committees in accordance with the sustainability criteria of the projects. However, in large part of USA and Canada these strategies have also contributed to an increase in housing costs in the inner city, fostering processes of gentrification, and limiting accessibility to some resources (physical and social infrastructures, amenities, renovated green areas, etc.) for the most disadvantaged social groups.

In Asia and in the Middle East instead, a special focus of the investigations is on the emergence of the development of new “Eco-Cities”. In particular, China has devoted significant political will and economic resources to the development of new-build eco-city projects, reflecting the Chinese government's goals to build a 'harmonious society' in which environmental sustainability and social stability are mutually reinforcing. However, 'eco' seems to mean the discursive construction of an environmentally friendly city *for its inhabitants*, filtering and protecting through highly technological envelope places within which urban life can be made clean, healthy and comfortable, but basically becoming areas of self-segregation for a green élite (Caprotti, 2014). Social consequences of green urban renewal and new urban development areas lead by sustainable principles have been instead less investigated in European Cities (Keil, 2007). Aim of this research project is to contribute to fill this gap in the literature, analysing in a comparative perspective, the social implication of green urban renewal and development in two Capital Cities - Vienna and Copenhagen, answering to specific *research questions: What has been the role of green renewal strategies in fostering the current spatial configuration in these cities? What have been the effects of such policies on the access to social and economic resources for the different social groups (ethnic background, social class, age, gender)? What is the balance in terms of entanglements and trade-offs among sustainability dimensions of the fostered urban policies? Have these policies and actions fostered unattended results³?*

The main argumentation of the paper is that it is necessary to look at the transformations affecting the relations between green urban renewal and the changing socio-economic structures of the cities with a particular context-related sensibility. In fact, while concepts such as ecological gentrification and the main social transformations connected with the creation of new eco-districts are helpful to identify mechanism of change also in European Cities, factors related to the multi-level governance of the urban context promote different impacts of these strategies, as the example of Vienna and Copenhagen show.

2.Green Urban Renewal. A Comparative view

Vienna and Copenhagen show interesting communalities and differences in the implementation of policies for green urban renewal, which makes the comparison interesting in view of identifying

³ Research methodology and approach: The investigation (still in progress) is based on a mixed method (qualitative and quantitative): institutional analysis (qualitative), analysis of socio-economic data (quantitative), ethnographic research (qualitative).

what contextual factors are relevant for the promotion of sustainable urban planning. Understanding how these factors work, allows to evaluate their role and impact in the production of new socio-spatial inequalities or in their prevention.

The main communalities between Vienna and Copenhagen are related to the strong promotion of strategies of green renewal and urban development meeting sustainability standards in both cities, while the most important differences are related to the affordability of the housing market, a factor that plays a huge role in fostering or containing social and spatial inequalities in contemporary cities (Cucca, 2012).

Copenhagen is always present in any top rankings of green and smart cities, and in any benchmarking of best practices for sustainable policies. However, this reputation has been the final result of a long and difficult transition to a Post-Fordist pattern of development, characterised by a strong shift from "the city of welfare" to a more entrepreneurial policy style, where innovation for sustainability has played an important role. Processes of green urban renewal and new urban development combined with the decrease in the social and affordable housing stock, have fostered processes of gentrification in some areas of the city and the concentration of very high income inhabitants in some new "Eco-districts". However, Copenhagen is also a place where interesting social and green innovation, both in the field of green housing and mobility, is likely to occur. Aim of the investigation is to understand the relation between contradictory phenomena and social processes (Anderberg, Clark, 2013).

The second case study is Vienna. Although the Austrian Capital may appear similar to Copenhagen as far as the attention to sustainability is concerned, it shows significant differences in the way the city has conciliated green urban development and housing affordability, avoiding huge processes of replacement and displacement of the population (Matznetter, W. 2002). In Vienna environmental protection has traditionally been coordinated with housing policies, that are well-known for the municipal housing stock: approximately 50% of all city housing stock is social or municipal housing, and attention to the affordability of housing, together with a strong orientation towards improving the quality of life and sustainability, has been seen as the best strategy to foster the attractiveness of the city. However, processes of gentrification and changes in the housing market affordability seem gradually to characterized also the most recent development of this city (Kadi, 2015). The main aim of the investigation is to understand the role of green urban renewal and urban sustainable development in fostering or containing this phenomenon.

In this paper I argue that there two aspects to consider when analyzing similarities and differences between Vienna and Copenhagen as far as green urban renewal is concerned:

1. The first is related to similarities concerning strategies. Both in Copenhagen and Vienna we can observe a specific development of plans concerning a) waterfront redevelopment, b) new eco-districts, c) social housing and d) neighborhood urban renewal developed according to high environmental standards.
2. The second is related to the role of public institution in governing this transition. While in Copenhagen the orientation to sustainability has gone hand in hand with a strong re-orientation of local policies towards neo-liberal strategies of urban development, in Vienna the transition from the *Red Vienna to the Green Vienna* has been governed through policies instruments more attentive to social sustainability, in particular through housing policies

oriented to affordability.

2.1. From the "City of Welfare" to the "Coolest Green and Blue City in Europe": the Case of Copenhagen.

During the last decade Copenhagen has been one of the most successful European cities competing in the arena of the global market (Oecd 2009). Always present in any top-rankings of "smart cities", and in any benchmarking of best practices for sustainable policies, Copenhagen has been represented as an effective example of a "cool green –and blue - city" (Styles 2011). However, this reputation has been the final result of a long and difficult transition to a Post-Fordist pattern of development, characterised by a strong shift from "the city of welfare" to a more entrepreneurial policy style, where innovation for urban sustainability has played an important role in terms of urban brand and the policies adopted (Andersen and Winther 2010; Cucca 2011).

Although there is still an important legacy of a strong public sector, today the economic profile of Copenhagen is characterised by the health and life sciences sector (Oecd 2009), including medical equipment and biotechnology industries, in addition to other sectors such as film, architecture and gaming.

In order to increase the attractiveness of the city, national and local governments have promoted several urban development strategies, transforming Copenhagen into one of the most environmentally friendly cities in Europe, according to many international rankings (Oecd 2009). Innovation in energy production has played a strategic role. Copenhagen is renowned worldwide as a pioneer in wind energy production. Moreover, the city operates one of the most sophisticated and environmentally friendly heating systems in the world. Waste heat from incineration and power plants is pumped through a 1,300 km network of pipes, preventing tons of CO₂ emissions (City of Copenhagen 2008). Finally, in terms of urban mobility, cycling plays a big role, and the national attitude towards using a bicycle has been fostered through numerous interventions. Bikes have been integrated into the wider transport network, so passengers can easily transfer between cycling and public transport; train carriages have been upgraded to accommodate cycles, including at peak times; and, in addition, 42km of 'Greenways' have been installed in suburban areas to provide safer, more direct neighborhood routes away from main roads and through parks and recreational spaces (*ibidem*). Finally, the city has made huge efforts to improve the quality of water in the harbor and today is possible to swim in large part of the city.

All these urban development policies have also had a direct effect on the capacity of the city to attract investors and international events about sustainability such as the Climate Summit in 2009. At the same time, such strategies improving the quality of the urban environment have been a magnet for professionals, with young and medium-high income families attracted by this new urban green way of life.

This transition has been fostered by specific development of plans concerning a) waterfront redevelopment, b) new eco-districts, c) green (social) housing and d) neighborhood urban renewal according to sustainability standards.

The city of Copenhagen is a fast growing urban context; in the last 10 years the increase in the population has been close to 20%. In order to accommodate such increasing population, today close to 650.000 inhabitants, over the last two decades some few important development projects

have been fostered, such as the Ørestad area, the waterfront redevelopment and the urban renewal of few inner-district (especially Vesterbro).

The Ørestad area (Majoor 2008) is part of a broader process of urban development in the Danish capital through the creation of the trans frontier region (Denmark-Sweden) of Øresund, thanks to a bridge connecting Copenhagen to Malmö. The area extends to the south of Copenhagen and plans to host high-tech firms, research centers and universities, and middle-class houses. At present it is connected to the center of the city by a highly automated underground, and to the city's airport by railway in less than ten minutes. The whole Øresund regional project, coupled with the expansion of flight routes, has transformed Copenhagen into the most important hub for North European countries (*ibidem*).

Other "new eco-districts" are instead growing on the waterfront of the city. As already mentioned, Copenhagen has invested significant efforts in cleaning its harbor and making it a safe place to swim. Today Copenhagen has municipal salt water swimming pools and several accompanying facilities, including sandy beaches. Around these new attractive sites, districts such as Island Brygge or the new Nordhavn which will accommodate many thousands of new residents in the next years.

Fig.1 Ørestad

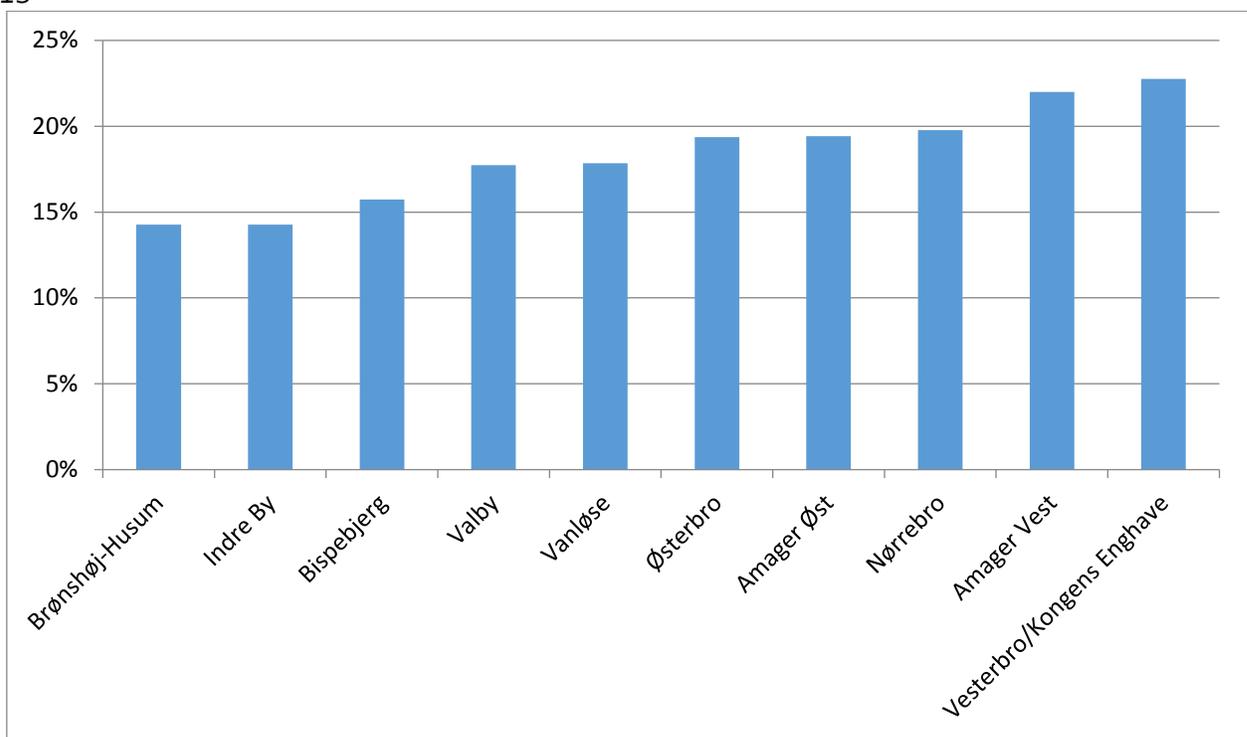


Source: Author's picture

In addition, almost half (48%) of the population in the Capital Region have access to green areas within a distance of 500 metres and Copenhagen has also promoted an effective network of “Pocket Parks” to make the urban environment more habitable. These efforts towards green urban renewal have characterized the main process of neighborhood change whose have taken place in the last two decades.

The areas involved in such programmes are mainly mid-central districts, bordering Copenhagen’s historic centre to the North (Nørrebro) and West (Vesterbro). By applying urban renewal policies oriented to increase the quality of the dwellings and the public spaces (for example developing large common – green back yards in areas characterized by high density), Copenhagen’s administration played a significant role in supporting the replacement of the population from the low and middle classes to the upper classes (Larsen and Hansen 2008) in such inner districts. In fact, if we look at the major changes in terms of social stratification (Graph. 1), we can find the highest increased of managers/upper Employees in areas strongly affected by process of urban green renewal (Vesterbro-Norrerbro) and Amager Vest (Orestad and Island Brygge) (Graph. 1)

Graph. 1 Increase in Managers – Upper intermediate Employees / Total Occupation by districts 1997-2013



Source: Author’s Elaboration on Copenhagen Municipal Statistics, 2015

The orientation towards sustainability standards has also been a main issue in the new architectural standards, both in the private and in the social sectors. However, paradoxically it was one factor decreasing the availability of affordable solutions. In 2010, among 59.000 affordable rentals apartments, only 20.000 were in the Social housing, while 39.000 were in the Private

Housing Stock (Ministry of Social Welfare, 2010). The high cost of new social housing has been due to (Tsenkova and Vestergaard, 2011) the cost of the land (national regulation does not allow Municipality to sell land under the market price) but also to the high cost for building under sustainability standards. In fact, the competitions for Social Housing based on indicators related to environmental standards but not affordability standards.

Aspects related to housing policies are particularly important in order to understand the social consequences of Copenhagen's shift from having a worldwide reputation as the city of the welfare state, to being branded the "cool green city". Part of the public finance invested in these projects has been obtained through the privatization of the municipal housing stock, as well through the strong process of urban renewal (Franz, Torri 2017).

Until the 1990s Copenhagen's housing stock was characterized by a high percentage of social housing, managed by the third sector or directly by the municipal government, and by a good percentage of private rented houses, sometimes without their own bathroom or central heating, which represented a potential solution for poorer citizens. However, in order to address a deep financial crisis in the early 1990s, and to promote urban plans for the development of the city, around 20,000 houses owned by the municipality were sold and transformed into co-operatives of homeowners. This has led to a significant increase in the number of families on the waiting list for an affordable house, with a waiting time, according to the latest figures, of up to twenty years

As a matter of fact, Copenhagen, until the nineties, because of its traditional concentration of social, subsidised and low-price housing (both rented and owned) had for a long time welcomed disadvantaged populations which would otherwise have been pushed towards the most deprived suburbs due to their difficulties in affording housing costs. It is because of this characteristic that Copenhagen was once known worldwide as "the city of welfare" (Andersen and Winther 2010).

These transformations gradually led to a partial replacement of the urban population and have promoted an image of Copenhagen at an international level as an example of a beautiful, sustainable and vibrant urban context: a "cool green city", for the new creative class.

However, the social costs of these transformations are visible especially in terms of socio-spatial inequalities. Due to the dramatic process of re-commodification of the housing stock in a process of fast urban growth, the affordability of many of the inner-districts as well as of the new urban developments described above have fostered process of residential segregation. On the one side low-income groups (especially with non-Danish ethnic background) are concentrated in less central areas of the city, mainly characterized by low environmental quality; on the other side the self-segregation of higher income groups in the areas characterized by high environmental standards.

2.2. From Red Vienna to Green Vienna

The second case study (still under investigation) is the city of Vienna. Although it may appear similar to the experiences of Copenhagen as far as attention to sustainability is concerned, it shows significant differences in the way the city has conciliated green urban development and housing affordability, avoiding huge processes of replacement and displacement of the population (although housing costs are recently increasing as argued by Justin Kadi, 2015).

Vienna today is strategically located in the heart of Europe, although the history of this city has been characterized from its beginnings by frequent shifts from the periphery to the centre of

Europe and back (Hatz 2008). However, after the 1990s, the city made its new centrality an asset, becoming a sort of "gate" between east and west Europe, attracting people and investment. Between 2005-2015 the population increased in Vienna around the 10% and in 2015, it grew by almost 43,000 inhabitants – a new record since the end of World War II. It is not only its dynamic economy, or the cultural heritage that attracts visitors and new inhabitants but also that Vienna is a safe city, ranked first worldwide in terms of quality of living (Mercer Human Resource Consulting 2016). In addition, Vienna has often ranked very highly in benchmarking studies on sustainable cities, and it is usually particularly praised for its excellent water quality and use of renewable energies. In addition, about 50 per cent of Vienna's area is covered in green space (City of Vienna 2010). As early as the 1970s the city began to invest in environmental policies, anticipating some European directives. Although there has been some justifiable criticism, balanced planning strategies have proven a sustainable path of urban development in Vienna.

However, the way that Vienna has tried to deal with urban development aimed to attract flows of people and capital, efforts to improve sustainability of the city, and housing policies is different from what Copenhagen experienced over the last decades. Environmental protection has traditionally been coordinated with housing policies at the municipal level, not only in terms of the design of buildings but also in terms of paying great attention to the lifestyles of the inhabitants (Paal 2003).

Similarly to Copenhagen, also in Vienna we can observe a specific development of plans concerning a) waterfront redevelopment, b) new eco-districts, c) green social housing and d) neighborhood urban renewal according to sustainability standards.

In terms of waterfront redevelopment, recently the Municipality has promoted huge competitions for the redevelopment of some parts of the Danube Canal and the Danube River waterfront. However, these projects have been characterized by a huge public debate, limiting the possible effects in terms of privatization of the public spaces as well as gentrification.

At the same time, Vienna has been developing one of the largest new urban development projects in Europe, concerning the area of Aspern-Seestadt, under many ways similar to the Orestadt project in Copenhagen, but characterized by a high percentage of social housing units.

In fact, in comparison to the Danish Capital, in Vienna many interesting innovations concerning housing sustainability have been associated with efforts to keep rents affordable, starting from a strong commitment in the social housing sector. As already anticipated, Vienna is renowned for its municipal housing projects: the City of Vienna is the largest European property manager, with more than 220,000 municipal flats built since the 1920s. The roots of the 'Vienna model' go back at least to the 1920s and the period of 'Red Vienna' (Blau, 1999), but were continued in the post-war period as part of the corporatist welfare state model (Reinprecht, 2014). Indeed, a strong local government intervention, has not declined in this area of policy over the last two decades but has remained constant, in contrast to that in Copenhagen (Scavuzzo 2011). During the 1990s especially there was a boom in housing construction driven by an increase in immigration due to the opening of the eastern borders and an influx of refugees from the Balkan countries (Abele and Hölzl 2007). The volume of subsidies for housing was raised dramatically in the nineties; in particular, the City of Vienna decided to double housing investment on the periphery. Together with private construction, this led to an increase in apartments constructed to 10,000 per year. At the beginning of the new century, environmental concerns became more and more important and there was a shift back from expansion at the border to expansion at the center and in the

older parts of the metropolitan area (Stadt Wien 2001). It was an attempt to limit the urban sprawl and to make them attractive to a younger generation.

Today approximately 50% of all city housing stock is municipal or social housing, and attention to the affordability of housing, together with a strong orientation towards improving the quality of life and sustainability, has been seen as the best strategy for improving the attractiveness of the city. In particular, the City of Vienna co-finances not-for-profit housing associations, which are given tax advantages, and as a condition are obliged to reinvest most of the profits in building new homes. Only projects which meet high architectural, ecological and environmentally friendly standards are eligible for public grants; usually, the lower the energy demand of the building, the higher the grant. However, indicators of housing affordability are also taken into consideration, and this represents a huge difference in comparison to Copenhagen's situation.

Additionally, a 'soft' urban renewal program supported by grants from the city, to improve urban quality, while avoiding 'gentrification' and providing affordable housing units in renovated apartment-complexes, has become a central focus of planning sustainability in Vienna (Abele and Hölt 2007). In addition also national funding are provided to upgrade old buildings keeping rents affordable.

There is little doubt that the huge presence of the city government in this sector has been a key factor in the wider urban strategy of environmental protection, and has also promoted experimentation both in ecological and in social innovation (Bricocoli 2011). This attitude has been fostered especially through a programme of 'theme-oriented housing estates', such as car-free housing areas, buildings powered by solar energy, projects oriented to the integration of immigrants and inter-cultural dialogue on gender aspects, new forms of living and working together, or so-called 'orchard development' with apartment complexes shaped like fruits and vegetables (Unece 2006, 109).

In terms of sustainability, the most interesting and innovative projects are in the new Seestadt-Aspern development, such as the house D12, a highly innovative building in terms of energy-saving technologies. In general the whole district has the ambition of representing a car-free neighborhood, thanks to the very good connection by public transportation with the city center of Vienna. Actually this kind of experimentation has been introduced in Vienna more than 20 years ago, with the AutoFreie social housing estate (Scavuzzo 2011). In accordance with the general transport plan, which aimed to reduce private car travel by at least 25% and to promote the introduction of new means of transport, AutoFreie is a social housing project whose residents have decided to live without owning a car. Instead, all the space usually devoted to parking and streets has been organized as common space (green areas, playgrounds for children and vegetable gardens) and as areas for storing bicycles, providing services for bikes and car-sharing. Although some recent investigations have shown only a partial success of this kind of interventions⁴, they represent interesting innovations to contain car-dependency in non inner-districts.

Additionally, Vienna has traditionally assumed a leading role in the construction of passive homes: currently, the city has twelve completed projects comprising about 1,150 homes built to

⁴ Interviews carried out with inhabitants (carried out by MA students in Architecture-Green Building –FH Campus Wien 2016-2018, supervised by the Author) in these car-free development have shown that only the 50% of the residents actually do not own a car after few years of residence in such areas

the passive house standard. In addition, the largest European passive housing estate is going to be built near the centre of Vienna, and the most important interventions have taken place in social housing estates, such as the student residence Molkereistrasse and the housing settlement Eurogate 2009.

Finally, the high percentage of social housing and the rent control measures seem to be able to contain or, at least, decelerate processes of gentrification in Vienna (Franz, 2015). However, areas such as the Second District in Vienna seem to be affected by huge transformations although only partially fostered by strategies of green urban renewal. As a matter of fact, in large part of the city the rent affordability has been decreasing (Kadil, 2015). However this is particularly true for this District, characterized by processes of gentrification in the area of the Market (Karmelitermark-today devoted to organic-locally grown food products), the development of the underground system, large urban development on the waterfront and projects of urban renewal to make more pedestrian friendly such areas.

Fig. 2: Urban Gardens on the Donaukanal (Second District), Vienna





Source: Author's picture

However, it is quite difficult to understand if the green urban renewal of such area has been the main driver of the social change happening in this area or as a consequence. In fact, it may be interpreted as a consequence of other huge transformation such as the relocation of the University of Economics (WU) in the area and especially the new underground line U2.

Although decreasing housing affordability and increasing processes of segregation and self-segregation also in Vienna (Novy 2011), the city seems to have promoted a more balanced pattern of sustainable urban development, a result of this investment in the social housing sector. In contrast to Copenhagen, attempts to keep housing affordable seem to hold the balance of power in urban strategies of sustainability, since it avoids the risk of "ecogentrification" and displacement, and also gives low-medium income inhabitants the possibility to live in a green and more livable urban environment. However, some issues are arising also in Vienna, such as the emergence of a gap between the situation of the already insiders (old inhabitants and the middle class able to afford the down payment due to enter in the social housing sector) and the newcomers usually subjected to the increasing costs of the private rent market. Being the availability of low-costs apartments located in very dense districts (such as the 15th District) or at ground-floor apartments (more affected by air-pollution and noise) in Vienna as well questions related to environmental justice are rising.

3. Concluding Remarks

What are the impacts of the green urban renewal projects promoted by many European Cities on the socio-spatial configuration of the urban context? Are categories such as green gentrification and processes of self-segregation due to the construction of eco-district helpful to understand

urban changes taking place in EU cities?

The case studies analysis of Vienna and Copenhagen show the emergence of different patterns of sustainable urban development. Both in Copenhagen and Vienna we can observe a specific development of plans concerning a) waterfront redevelopment, b) new eco-districts, c) social housing and d) neighborhood urban renewal developed according to high environmental standards. However, while in Copenhagen the orientation to sustainability has gone hand in hand with a strong re-orientation of local policies towards neo-liberal strategies of urban development, in Vienna the transition from the *Red Vienna to the Green Vienna* has been governed through policies instruments more attentive to social sustainability, in particular through housing policies oriented to affordability.

To sum up, the literature developed on green gentrification as well as on the spatial segregations effects of new designed eco-cities are quite appropriate to describe the pattern followed by the city of Copenhagen. A strong orientation towards a more environmentally friendly context has contributed to urban growth, most especially through a huge increase in real estate values. The urban patterns of sustainable urban development experienced in Copenhagen have negatively affected the social vulnerability of many low income and socially excluded people, decreasing housing affordability in inner-city districts affected by (green) gentrification. At the same time, new attractive areas on the waterfront are contexts of self-segregation for the richest groups. In Copenhagen the leading mechanism for the shift from "city of welfare" to the "cool green and blue city" has been the privatization of public housing stock and the many processes of urban renewal promoted by local and national institutions in order to attract investment and medium-high income inhabitants.

The example of Vienna shows, however, that the patterns of urban sustainability characterizing Europe are diverse as far as the social impacts fostered by these programs are concerned. The main issue is obviously related to the role of the local authorities in managing urban development, especially through housing policies oriented to both environmental innovation and the preservation of housing affordability (Scavuzzo 2011), although some problems are emerging in Vienna as well.

In any case, it is a matter of fact that in many European cities the effect of such strategies have been different from Vienna (Isenhour et al. 2015). The search for sustainability in the renewal and new design of Eu Cities has played an uncertain role, fostering in many cases a green growth with negative effects on urban social inequalities (Keil 2007). In particular, it seems to be an important ingredient of urban changes connected with processes of segregation and self-segregation, as well as an unequal access to the environmental goods- produced by public intervention. Moreover, in comparison to the North-American cities were the Environmental Justice movement as well as mobilizations against gentrification have a certain public visibility (Lewis and Gould, 2016), in a context characterized by a huge lack of awareness among the civil society groups.

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