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The Unexpected Consequences of Sustainability. Green Cities Between Innovation and Ecogentrification

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The Unexpected Consequences of Sustainability

Green Cities Between Innovation and Ecogentrification

by Roberta Cucca

Introduction

Sustainability can be described as one of the most important pieces of rhetoric characterizing the last two decades, leading to international agreements on environmental protection, as well as national plans and local interventions in numerous policy areas. However, after a first enthusiastic phase, it has become evident that sustainability is far from being an effective paradigm, being too broad, vague and economically-centred, and with no specific environmental or social dimensions clearly set out [Baker 2006]. In particular, with the exception of scholars who have followed an ecological modernisation approach to the study of the environmental crisis [Mol *et al.* 2009,] the concept of sustainability has been accused of ignoring two factors [Marcuse 1998]. The first of these is the limitations imposed by the technology of the present and near future on the ability of the environmental resources to fulfill human needs; the second is the barrier, represented by the social organisation of the economic means of production, to the possibility of following this pattern of development.

In any case, there is little doubt that one important principle of the sustainable development concept has been the recognition of the need for a multidimensional approach to the environmental crisis, based on economic, ecological and social attention to defining strategies for development [Unwced 1987]. However, there has been increasing 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, also known as "green growth"[1] [Bluhdorn and Welsh 2007; Vavouras 2011]. At the same time, the social pillar of the concept has entered the political agenda to a much more limited extent [Dillard, Dujon and King 2009,] although "human well-being, equity, democratic government, and democratic civil society are central constituents of sustainability" [Magis and Shinn 2009, 16].

This attitude also seems to be present in the research agenda of the social sciences. In fact, the most interesting contributions about social sustainability are related to the concept of environmental justice – in terms of both inequalities in access to environmental benefits [Leonard 1989] and the unequal distribution of environmental risks [Beck 1986] – and to the theme of democratic inclusion in the governance of sustainability or technological innovation [Hajer 1995; Glasbergen 1998; van Tatenhoven 2003; Pellizzoni 2010]. Conversely, topics relating to social inequality, justice and inclusion have been less integrated into studies considering sustainability [although there are some exceptions, e.g. Pòlese and Stren 2001; Magis and Shinn 2009; 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 instead 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].

The aim of the present article is therefore to highlight the implicit risks in policies which are theoretically framed in the approach to sustainability but which in practice are simply sustaining a green economic growth, with the paradoxical risk of fostering greater inequality among social groups [Cucca and Tacchi 2012].

I consider a series of case studies in urban development because from the beginning, the need for more sustainable cities has been considered a key point of global strategy for the future. Cities are the places where most of the world's population is concentrated; they represent important social and economic systems, polluting and consuming resources, and are social organisations potentially more oriented towards sustainable modernisation [Lehmann 2010]. In addition, cities are actually places where social, institutional, economic and technical innovation is more likely to occur.

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[1] Green growth [Unescap 2005, 4] is a concept invented to overcome the trade-off between economic growth and environmental conservation [Mori and Ueto 2007, 1], incorporating policies and tools oriented towards avoiding pollution and the unsustainable consumption of natural resources. At the same time, however, it neglects the social dimension that constitutes the third component of sustainable development.

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]. In fact many urban scholars have highlighted the fact that 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 technicians, highly 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].

This attitude has also been noted by scholars referring to an Urban Political Ecology approach [Keil 2003], that during the last decade has represented, especially in the field of urban geography, a theoretical contribution more keen on analysing the incorporation of ecological goals into the greening of urban governance devoted to economic growth [While *et al.* 2004]. Urban political ecologists attempt to understand the material flows, human/non-human relationships, and power regimes that comprise "socionature," and the discursively and materially constructed urban systems [Heynen *et al.* 2006; Keil 2007]. In particular, as far as urban development is concerned, Rob Krueger and David Gibbs [2007] noted a strong correlation between American cities which have prospered in the "new 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, as an unwanted result, these strategies have also contributed to an increase in housing costs in the inner city, fostered processes of gentrification, and limited accessibility to some resources (physical and social infrastructures, amenities, renovated green areas, etc.) for the most disadvantaged social groups. This process has been defined by some scholars as "ecogentrification", and represents one of the most obvious unintended results of sustainability, combining aspects of ecological modernisation, environmental protection, and urban growth [Keil 2007].

This attention to the effects of environmental policy on the condition of social inequalities has especially affected studies of urban geography, while there is still few sociological investigation of the possible trade-offs among environmental-economic and social impacts of the interventions attempting to improve the sustainability

of cities. This article attempts to start filling this gap. By selecting case studies of cities that have been particularly successful in implementing policies of green growth, Copenhagen in Denmark and Vancouver in Canada, this article will try to set out the possible impacts of these strategies in terms of spatial inequality among social groups. The investigation, carried out through interviews with key informants in the cities as well as the collection and analysis of statistical data, focuses on phenomena such as the replacement of the population in the areas more affected by policies of "green urban renewal" and the displacement of the most marginal groups into more segregated or deprived areas. Finally, considering the example of Vienna in Austria, I present some possible examples of strategies to create a more balanced principle of urban sustainability in terms of spatial justice.

From the "City of Welfare" to the "Coolest Green 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 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 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 addition, the economy of Copenhagen is solidly export-oriented in various economic sectors: transportation, logistics, business services, agricultural products, technological products, biopharmaceutical products and medical instruments.

In order to increase the attractiveness of the city, national and local governments have promoted several urban development strategies. The best known is in the Ørestad area [Majoor 2008], part of a broader process of urban development in the Danish capital through the creation of the transfrontier 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 (60%), research centres and universities (20%), and middle-class houses (20%). At present it is connected to the centre of the city by a highly automated underground, and in the future this system will also connect the area to the city's airport 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 policies and interventions have also transformed 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. In 1990, less than 2% of its total electricity production came from wind energy, but in 2006, this had quadrupled to nearly 9%, thanks to tax breaks on capital investment, mandated targets, preferential pricing and a ban on nuclear power generation. 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 CO_2 emissions [City of Copenhagen 2008].

In terms of protecting the green environment, Copenhagen has invested significant efforts in cleaning its harbour and making it a safe place to swim. Today Copenhagen has a municipal salt water swimming pool and several accompanying facilities, including a sandy beach. 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 [*ibidem*].

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 neighbourhood routes away from main roads and through parks and recreational spaces [*ibidem*].

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, these interventions have been a magnet for professionals, with young and medium-high income families attracted by this new and urban green way of life. This last point is 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 privatisation of the municipal housing stock, as well through the strong process of urban renewal [Torri 2010].

Until the 1990s Copenhagen's housing stock was characterised 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 home-owners. 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 [*ibidem*].

A second mechanism is linked to the urban renewal policies endorsed by the administration since the 1980s. 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 these urban renewal policies, 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].

The policies implemented over the last fifteen years have clearly achieved some important aims. In recent years Copenhagen has experienced a sustained growth in gross domestic product (GDP), and a substantial reduction in unemployment rates. However economic growth in the Danish capital has not been a miracle involving a large part of the population, but rather a mechanism that has substantially altered the composition of the population, especially its "extremes". In just four years the number of taxpayers with incomes above €70,000 has doubled and, at the same time, the number of people whose income is less than €13,000 decreased by approximately 30% (excluding the group of taxpayers earning less than 6,500). However, these taxpayers were not enriched but gradually expelled from a city that has become increasingly attractive to the new creative class. 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 different mechanisms jointly led to the disappearance of homes that could be rented at affordable prices and led simultaneously to extremely favourable conditions for the growth of segregation in the few areas of social housing still available both in Copenhagen and in the suburban areas [Penninx 2007; Cucca and Pologruto 2011]. This trajectory may be easily interpreted as a direct result of the transition from a universal system of social housing to a residual system where mainly refugees and the unemployed are concentrated [Kristensen 2007; Skifter Andersen 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.

From "Sleepy Town" to Most Desired Sustainable City: The Case of Vancouver

According to some scholars [Brunet-Jailly 2008] most cities have a sense of place and a story about their citizens: New York never sleeps; Paris is for lovers; and Vancouver is the sustainable city [Berelowitz 2005]. As a matter of fact, Vancouver has for many years in succession been given the accolade of the most "liveable city" in the world, due to the high quality of its health care and education systems, its diverse culture, its comprehensive infrastructure and its environmental sustainability. The Canadian city has, through internal policies and external impacts, experienced an important transition over the last two decades from a `sleepy provincial town' to a dynamic global city, a gateway to the Asia Pacific region [Mitchell, 2004]. In a few years Vancouver has become a first choice destination for Canadians and immigrants who want to live in a vibrant city not far from a wild environment of mountains, forests, oceans and lakes [Ley 2010].

The natural situation of the urban context has been improved through strategic plans oriented towards sustainability, and through international events that have attracted a flow of tourists and investment into the city. In Vancouver, sustainability serves as a model and a framework for city and regional decision-making as a whole [City of Vancouver 2003], and it appears prominently in specific local policy initiatives ranging from sustainable neighbourhood development to urban food policy [Mendes *et al.* 2008].

In terms of policies and interventions, Vancouver has a strong reputation as a city which is historically sensitive to the quality of its environment, since, unlike many cities in North America, it has evolved a transport system which is not dominated by freeways into the inner city [Quastel 2009]. This is thanks to a community-based movement which, in the 1950s and 1960s, fought against a car-dependent system of urban mobility.

The accessibility of the city and the absence of large freeways have made Vancouver a leading North American example of a city with a sustainable transport system. This has been achieved by reducing car access to some areas and introducing measures to slow traffic in commercial zones, facilitating the use of alternative modes of transport through different types of pedestrian and cycle ways, and implementing a range of interconnecting public transport systems (including trolley buses, Skytrains and suburban commuter rail systems) across the city and its surroundings. In addition, Vancouver has transformed the types of urban development taking place, designating, in 1990, certain land as unavailable for urban development. The policy also encourages development in regional centres, based around the Skytrain network that enables walking and cycling within station precincts and provides good access to fast, frequent rail travel for longer trips [City of Vancouver 2005]. Vancouver is also a worldwide leader in municipal food system planning, providing support for several strategies of urban agricultural activities [Mendes *et al.* 2008].

All these features have led to the city gaining wide recognition at international level, and to the attraction of big events such as the 2010 Winter Olympics which, it is claimed, were the first completely sustainable Olympics in history [Holden *et al.* 2010].

The main aim of Vancouver's recent policy vision for the future, known as the "Greenest City initiative", is for the city to become the most sustainable city in the world by 2020 [City of Vancouver 2005]. The city also intends, through a huge public consultation process, to inform inhabitants about the plans. In particular, the plan will create a sustainable community energy system for a large area of the city (Southeast False Creek), which will reduce heating-related greenhouse gas emissions by more than 50%. In addition, Vancouver is working on the EcoDensity initiative, promoting the development of complete, mixed-use urban communities in all the city's neighbourhoods [City of Vancouver 2006].

However, in Vancouver as in Copenhagen an improved "liveability" for some [Dale and Newman 2009] has come with some unwanted consequences, especially in terms of the loss of affordable housing and an increase in homelessness, the retrenchment of social services, and rising concerns about poverty, crime, housing affordability, income inequality and social polarisation [Walks 2011].

The huge transformation of the city, especially as far as housing policies and markets were concerned, began in the late 1980s with Expo 86, the World Fair focussed on the transportation sector. This international event was an important turning-point for the city, due to the implementation of a huge strategy for the redevelopment of under-utilised industrial or commercial districts in the inner city into high-density residential areas. The main investors in this programme were from Hong Kong, and this was just the starting point for a huge flow of real estate investment into Vancouver from Asian development interests that rapidly changed not only the skyline of Downtown Vancouver, but also the housing market of the city that has become one of the most expensive in the world [Mitchell 2004].

Many Asian 'millionaire migrants' [Ley 2010] moved to live and invest in "sustainable Vancouver", redefining both the class and the ethnic contours of specific communities, and dramatically changing its urban character from a sleepy provincial town on the West Coast to an attractive gateway between North America and Asia.

Over the last twenty years, the redevelopment of the city centre has been increasingly determined by mega-projects directed towards the services and general environment desired by the more affluent groups of the knowledge economy. Environmental quality, multi-modal options (including walkability and public transport) and cosmopolitan consumption spaces have promoted patterns of gentrification that have consistently supplanted low-income neighbourhoods [Walks 2011]. At the same time, by the mid-1990s, the federal government of Canada had stopped its financial support for new affordable homes, and other parts of the national housing plan were also dismantled by the end of that decade. Those policy decisions led to growing housing insecurity and homelessness, especially in Vancouver (from 2002 to 2010 the percentage of homeless has increased up 373%, according to Wellesley Institute 2010), the city where housing costs increased the most nationally. Tenants in Vancouver face the biggest affordability barriers in Canada – with a stunning gap of $18,660 between average incomes for low income households and the income required to pay an average private market rent in that city. Not surprisingly, Vancouver has been defined by the most important Canadian NGO involved in housing issues as "Canada's affordability horror story" [*ibidem*, 57].

These mechanisms have affected both new and old residents, displacing low income families towards the suburbs or outside the province of British Columbia, and promoting a concentration of deep social exclusion in a small number of blocks in the downtown area, especially in "Downtown East Side" [Ley 1996; Barnes and Hutton 2009]. In addition, the rising costs of the housing market have limited the settlement of new low income immigrants in the most central areas, pushing them into suburban areas which are not well served by public infrastructure.

The replacement of the population in the downtown area has also contributed to a rapid erosion not just of hard factors (the affordability of housing) but also of soft factors (social policies and strategies) for low income residents [Dale and Newman 2009] . An example of damage to the soft infrastructure has been the erasure of one of the most successful local initiatives for empowering street people: "United we can" [*ibidem*]. This was a social enterprise, a major part of which was recycling: "dumpster divers" or "binners"[2] collected over 20 million cans and bottles a year, and the initiative employed 700-750 street people. When the neighbourhoods began to be gentrified and made greener by effective recycling infrastructures under more strict surveillance, this paradoxically affected the economic balance of the most important local initiative for street people in the downtown area.

As a matter of fact Vancouver represents an interesting case of "ecological gentrification" or "the displacement of vulnerable human inhabitants resulting from the implementation of an environmental agenda driven by an environmental ethic" [Dooling 2008, 41]. This gentrification took place thanks to the interesting combination of a strong environmental movement, the presence of large brownfield redevelopment, large investment from Asia, and the inner city appetites of a new cosmopolitan and creative class, largely committed to environmental and sustainability concerns [Quastel 2009].

Is There Another Way? Notes From Vienna

Our last case study is that of the city of Vienna. Although it may appear similar to the experiences of Copenhagen and Vancouver 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.

Vienna today is strategically located in the heart of Europe, although the history of this city has been characterised 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. In the ranking regarding the number of conferences, for example, Vienna is second worldwide, following Paris [Vienna City Administration 2007, 2]. It is not only its cultural heritage that attracts tourists and visitors alike but also that Vienna is a safe city, ranked third worldwide in terms

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[2] A binner is a street person who takes recyclable material from the garbage to the retailers for money.

of quality of living [Mercer Human Resource Consulting 2007). 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 sustainability 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 a flows of people and capital, efforts to improve sustainability of the city, and housing policies is very different from what Copenhagen and Vancouver experienced over the last decades. It is particularly interesting to note that 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].

In particular, 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. Such 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 and Vancouver [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 Hölt 2007].

The years before this were characterized by relatively low construction even in the subsidized sector, while efforts were especially concentrated on projects of urban renewal such as a world exhibition and the joining of EU, all of which worked together to create expectations of further increases in demand. For these reasons, 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 lead 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 centre and in the older parts of the metropolitan area [Stadt Wien 2001]. It was an attempt to limit the limit the urban sprawl and to make them attractive to a younger generation.

Today approximately 21% of all city housing stock is social housing, and attention to the affordability of housing, together with a strong orientation towards improving the quality of life and sustainability, is seen as the best strategy for im-

proving 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.

This 'soft' urban renewal programme supported by grants from the city, to avoid 'gentrification' and provide affordable housing units in renovated apartment-complexes, has become a central focus of planning social sustainability in Vienna [Abele and Hölt 2007].

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 projects are the AutoFreie and the Passive housing estate3 [Scavuzzo 2011]. In accordance with the general transport plan, which aims 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 organised as common space (green areas, playgrounds for children and vegetable gardens) and as areas for storing bicycles, providing services for bikes and car-sharing. 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 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.

As a result of this investment in the social housing sector, Vienna seems to have promoted a more balanced pattern of sustainable urban development, one that has not led to extended processes of gentrification, although the city is not exempt from some process of residential segregation [Novy 2011], especially affecting the most disadvantaged ethnic groups. However, in contrast to Vancouver and 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 ability to live in a greener and more liveable urban environment.

Concluding Remarks

The case studies of Copenhagen and Vancouver are helpful for focusing on some possible unexpected social consequences of policies oriented towards sustainability. In both the Canadian and the Danish city, a strong orientation towards a more environmentally friendly context has contributed to urban growth, most especially through a huge increase in real estate values. It has also been possible as a result of the strong commitment of the "new inhabitants" of the cities to sustainability practices, and to being involved in decision-making processes [Brunet-Jailly 2008].

However, the urban patterns of sustainable development experienced in Copenhagen and Vancouver have negatively affected the social vulnerability of many low income and socially excluded people, decreasing the availability of hard and soft infrastructures in their areas. In Copenhagen the leading mechanism for the shift from "city of welfare" to the "cool green 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. In Vancouver the process has been more "market determined", through a series of re-developments financed by Asian investors and through the promotion of big events (the Expo, the Olympics) under the umbrella of sustainability. In the Canadian city this has led to a sort of "ecogentrification" [Dooling 2008].

However, the example of Vienna shows that it may be possible to promote more environmentally friendly cities, while better taking into account the social dimension of sustainability in terms of social justice. 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].

T\ :sub:`AB`. 1. *Sustainability and (spatial) social justice in Copenhagen, Vancouver and Vienna (actors, process and effects)*

	Actors and processes	Effects
Copenhagen	Local Authority dismissing large part of the Municipal Housing stock. Local and National Authorities promoting urban renewal strategies oriented to sustainability, attracting new social groups.	Replacement of the population (more young, high skilled and wealthy inhabitants). Medium-low income people moved to the suburban areas and to Sweden (sprawl, commuting). Segregation of the most disadvantaged social groups (especially recent immigrants and refugees) in remaining municipal housing stock.
Vancouver	Federal Government stopping the construction of new municipal-social housing. Private investors (especially from Asia) fostering development of the downtown area. Local authority (especially the City) fostering the Urban brand and policies towards sustainability to attract capital investors, tourists.	Replacement of the population. Attraction of people with high incomes, especially from Asia; more young, high skilled and wealthy inhabitants. Medium-low income people moved to the suburban areas or outside the Province. Worsening conditions of the most excluded social groups (especially homeless).
Vienna	Municipal authority strongly committed to public / social housing policies over the last decades (especially since 1990). Housing affordability and environmental sustainability linked together as assets to attract population and investors.	Although there are some deprived neighbourhoods in the urban outskirts, good presence of low income people in the new "green social housing". Green renovation extended to the whole public housing stock. Limitation of strong process of gentrification through housing policies.

Compared to Vienna, where affordability and sustainability together have been considered an asset for urban development, in many North American contexts as well as in some European cities the effect of such strategies have been different. Sustainability, in the field of urban policies, has played an uncertain role, fostering in many cases a green growth with negative effects on urban social inequalities [Keil 2007], promoting processes such as the replacement of the most vulnerable social groups from the cities and, in some cases, more severe conditions of segregation in the most deprived housing stock. It is clear that these phenomena represent something far removed from the basic principle expressed in the Brundtland Report. This report was one of the first documents promoting the concept of sustainable development at an international level, including from the beginning equitable resource distribution as a

central sustainability issue, and arguing that "a world in which poverty and inequality are endemic will always be prone to ecological and other crises" [Unwced 1987, 43]. Unfortunately the achievement of a more equitable society is largely disregarded at the global level, if not somewhat paradoxically at risk of worsening as a consequence of some policies of sustainability themselves.

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The Unexpected Consequences of Sustainability

Green Cities Between Innovation and Ecogentrification

Abstract: The definition of sustainable development clearly requires the integration of the economic, ecological and social impacts of the development. While scholars and practitioners have mainly focused their studies on environmental protection and green management, the social pillar in the concept of sustainable development has been on the research agenda to a more limited extent. Within this framework, the main aim of the present article is to highlight the relevance of an integrated approach to sustainability, in order to avoid possible trade-off mechanisms between the different dimensions of the concept, in the processes both of policy design and of policy implementation. In particular, through the analysis of two case studies – Vancouver (Canada) and Copenhagen (Denmark) – the investigation focuses on the urban policies promoted in these two contexts, under the brand of "sustainable city". This promotion was carried out through the organization of big international conferences or expositions about sustainability, the promotion of tools of environmental management in the field of waste management and mobility, and the enhancement of green areas. As a general result, both Vancouver and Copenhagen have attracted strategic economic and social resources such as talent, real estate investment, and international events; however these programmes seem to have also promoted a strong increase in the cost of housing, fostering a general process of "ecogentrification" by the replacement of the urban population and the emergence of new inequalities among different social groups. Finally, taking in to account the case of Vienna, some possible examples of strategies to create a more balanced principle of urban sustainability are presented.

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