

From megaprojects to tourism gentrification? The case of Santa Cruz Verde 2030 (Canary Islands, Spain)

¿De los megaproyectos a la gentrificación turística?

El caso de Santa Cruz Verde 2030 (Islas Canarias, España)

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Abstract

The inner-city oil refinery in Santa Cruz de Tenerife, Spain, has been shaping the city's urbanism as an employer, but also as a polluter and a physical barrier for more than 80 years. The megaproject Santa Cruz Verde 2030 aims at transforming this area into a mixed-use urban quarter. Based on a mixed methods approach, this paper analyses the impacts of the megaproject by means of document, spatial and statistical analyses. The project is estimated to increase the city's green areas by 39 % and the number of hotel beds by 70 %, provoking a strong touristification. Santa Cruz Verde 2030 stands for a new type of megaprojects, offering a variety of uses and sustainability wordings. Nevertheless, the impacts might reconfigure the city's urbanism as a whole, shifting centralities to its southwest. On a neighbourhood level, spillover effects are expected to have diverging consequences. While in the Los Llanos neighbourhood gentrification and tourism are fostered, in Buenos Aires the megaproject implies the opportunity to integrate this currently segregated quarter into the city. Against this background, the paper outlines the necessity of

transparent planning and monitoring processes, in order to ensure the sustainability of this new urban quarter.

Key words: megaprojects; gentrification; tourism; urban development.

Resumen

La refinería de petróleo en Santa Cruz de Tenerife (España) está condicionando el urbanismo como empleador, pero también como agente contaminante y barrera urbanística desde hace más de 80 años. El megaproyecto Santa Cruz Verde 2030 pretende transformar dicha zona en un barrio urbano con usos múltiples. Basado en un análisis estadístico, urbanístico y documental, este ensayo analiza los impactos del megaproyecto. La transformación implica un aumento de espacios verdes en un 39 %, mientras que el número de camas en el sector turístico crece en un 70 %, lo que implica una turistificación importante. Santa Cruz Verde 2030 simboliza un nuevo tipo de megaproyectos, caracterizado por usos múltiples e imágenes de sostenibilidad. Sin embargo, los impactos podrían reconfigurar el urbanismo de la ciudad. En barrios colindantes, el megaproyecto conlleva diferentes consecuencias. En Los Llanos, la gentrificación y el turismo están fomentados. En Buenos Aires existe la oportunidad de integrar un barrio segregado en la ciudad. En este contexto, el ensayo esboza la necesidad de procesos de planificación y monitorización transparentes que garanticen la sostenibilidad del proyecto.

Palabras clave: megaproyectos; gentrificación; turismo; desarrollo urbano.

1 Introduction

Gentrification in Santa Cruz de Tenerife, Spain (Figure 1), has already been analysed in various urban quarters, such as in El Toscal and Los Llanos (García Herrera & Díaz Rodríguez, 2000; García Herrera et al., 2007). During recent years, new dynamics have been added to the prevailing discussion due to the estimated close-down of the inner-city oil refinery in Los Llanos' direct neighbourhood. For more than eighty years, this industrial plant has shaped Santa Cruz not only as an important economic factor of development, but also as a polluter and a physical barrier. The megaproject, "Santa Cruz Verde 2030", was presented in June 2018 as a public private partnership between the city hall and the Compañía Española de Petróleos S.A. (CEPSA), the proprietary of the refinery. It entails a mix of green spaces, Santa Cruz' first urban beach, housing projects and hotels. Based on that, the argument is developed that the megaproject does not only

cause a considerable revaluation of the conversion site itself, but also implies spillover effects in neighbouring quarters and a significant reconfiguration of Santa Cruz' urban system.

Possible effects on adjacent quarters are studied by means of Los Llanos and Buenos Aires, two contradicting case studies. Los Llanos has already experienced new build and tourism gentrification in the last decades (García Herrera et al., 2007) and is now regarded as a new urban centre, whereas Buenos Aires is a spatially segregated quarter surrounded by industries and highways, with one of the highest vacancy rates (39%) in Santa Cruz' housing sector (Hübscher, 2018, p. XXV). For both neighbouring quarters, Santa Cruz Verde 2030 implies diverging perspectives, changing their urban environment from industrial to recreational.

Figure 1. Geographical situation of Tenerife, Santa Cruz and the megaproject "Santa Cruz Verde 2030"



Source: own elaboration, map based on Open Street Map (2019)

However, the planning processes have just begun. Although a public private agreement has been announced, picturing objectives and first planning parameters, no binding planning instrument has been applied so far. Additionally, municipal elections in spring 2019 provoked a political change within city's government, leaving the future of Santa Cruz Verde 2030 as it was announced in 2018 unclear. For that reason, this paper presents an ex-ante approach. In spite of methodological limitations of this approach, the author argues that analysing this case study adds significantly to a better understanding of the framework conditions of the megaproject. Findings do not only reveal

the character of the project itself, they also contribute to a broader understanding of how urban development is approached from public and private actors until summer 2018. The aim of that is to create a basis for a critical public discussion, which is, even one year after the official announcement of Santa Cruz Verde 2030, not taking place.

In that context, this paper embeds theoretical concepts of gentrification, tourism and megaprojects. According to the academic discourse, megaprojects are regarded as an instrument not only to modify existing urban structures, but also to modify the international perception of spaces (Moulaert et al., 2001; Sandercock & Dovey, 2002). It is particularly the case of waterfront redevelopments as large-scale projects, where urban entrepreneurialism logics are implemented (Harvey, 1989, p. 10). The intention to produce a “successful city” (Vives Miró, 2011) within neoliberal contexts (Brenner et al., 2010b; Peck et al., 2009) is a strategy that takes places locally, although it is highly intertwined with global networks and represents elite-driven interests (Swyngedouw et al., 2002). The logic of being successful from an entrepreneurial point of view has fuelled the importance of creating images and brands within the global urban competition (Kavaratzis, 2004). These aspects often go hand in hand with induced processes of gentrification, considered as global urban strategy (Smith, 2002). The growing market of vacation rentals (e.g. Airbnb), fosters these new patterns of producing urban space and poses challenges both for urban practice and academic concepts such as tourism gentrification (Gotham, 2005).

Against this background, the aim of this paper is to examine the social and spatial impacts of the megaproject Santa Cruz Verde 2030. Firstly, megaprojects as research objects are approached from a theoretical point of view. For that reason, a literature review is presented in chapter two, dealing with their characteristics and the integration into urban contexts. On that basis, chapter three presents Santa Cruz de Tenerife as case study. An introduction from a geographical point of view is given as well as a short analysis of the relationship between the oil refinery and the city. The research method is also depicted here. Chapter four totals three subsections. Firstly, the public agreement between the city hall and CEPSA is discussed, putting emphasis on planning parameters. Consequences and impacts of Santa Cruz Verde 2030 are discussed in different aspects (infrastructure, urbanism, tourism etc.) and spatial scales (conversion site, neighbourhood, municipality). The paper then shifts focus to the two neighbouring quarters Los Llanos and Buenos Aires, scrutinizing their diverging development perspectives. In the final chapter, a conclusion is drawn, setting up ideas for a more sustainable integration of Santa Cruz Verde 2030 within its urban context.

Being characterized by its ultra-periphery, tourism and consecutive processes of growth and shrinkage, Santa Cruz de Tenerife provides a unique setting of factors, contributing to a further understanding of how urbanism is produced under these framework conditions in the context of post-crisis. The chosen case study delivers further evidence of how this post-crisis “trans-nationalisation of the Spanish property markets” (Janoschka et al., 2019, p. 2) goes hand in hand with place-specific logics and rhetorics of sustainability images, distorting a comprehensive understanding of the megaproject in question.

2 Conceptualising megaprojects in urban theory

This chapter firstly puts megaprojects as research concept into focus. Secondly, the relationship between megaprojects and urban development is elaborated, putting emphasis on induced processes of urban upgrading and displacement.

2.1 Big, bigger, megaprojects

Large urban projects have existed since antiquity (Richard, 2011, p. 241). Yet, their number has grown remarkably since the 1980s (Hanakata & Gasco, 2018, p. 3). They have continually shown high growth rates, particularly in the current century (Brookes, 2014, p. 241) and have therefore been analysed with increasing scientific interest.

However, both the definition and the denomination of these projects stand out for their irregularity within the academic discourse. In English, terms such as “large-scale urban development projects” (Swyngedouw et al., 2002), “flagship projects” (Smyth, 2005) or “megaprojects” (Bruzelius et al., 2002) refer to developments that stand out for their size in multiple dimensions. To a certain point, even “mega-events” (Andranovich et al., 2001; Gruneau & Horne, 2016) form part of this discussion, as they often entail large urban projects. Based on the Greek root “mega” standing for “large”, scale is one of the central dimensions in which megaprojects are discussed (Flyvbjerg, 2014, p. 8). There are those who understand this categorisation of “mega” solely in monetary terms (Brookes, 2014, p. 241). Others define megaprojects with regard to their function, referring to their historical use as provider of public goods, such as infrastructure or energy (Lehrer & Laidley, 2008, p. 788), although projects can be embedded within a variety of settings such as culture, sports and industry, to name a few (Brookes, 2014, p. 241). Here, a simple dissociation from “small” projects is not constructive, since megaprojects follow a completely different logic (Flyvbjerg, 2014, p. 3). Against this background, Fainstein identifies megaprojects to be a rather loose concept (2009, p. 768), which is why numerous studies tend to set up case-specific

definitions. Although the global portfolio of megaprojects reveals a variety of shapes, functions and contexts, there still exist similarities particularly among projects initiated from the second half of the twentieth century onwards (Sklair, 2013, p. 162).

For this reason, Figure 2 aims at capturing some of the most essential attributes of megaprojects. The figure reveals that apart from the quantitative perspective, which has been focused on by a large number of studies with an entrepreneurial approach such as Marrewijk et al. (2008) and Bruzelius et al. (2002), megaprojects are also characterized by their complexity in less quantifiable aspects.

Figure 2. Selected characteristics of megaprojects

general characteristics		spatial dimension	
extrem complexity in every aspect	Brookes, 2014	large surface	Oliomogbe & Smith, 2012
controversial	Frick, 2008	contiguous area	Fainstein, 2009
great risk and uncertainties	Richard, 2011	inhospital places	Oliomogbe & Smith, 2012
numerous indirect effects	Bruzelius et al., 2002	modify existing urban structures	Sandercock & Dovey, 2002
conceptual diversity	Jia et al., 2011	spillover effects	Hanakata et al., 2018
non-standard designs	Flyvbjerg, 2014	poor integration into urban context	Swyngedouw et al., 2002
managerial dimension		political dimension	
costs > \$0.5 - 1 billion	Flyvbjerg et al., 2003	multiple stakeholders with opposed objectives	Ruuska et al., 2008
underestimated costs	Frick, 2008	elite-driven	Cerro Santamaría, 2013
poor delivery	Li & Guo, 2011	means to combat economic recession	Flyvbjerg, 2014
long life time	Bruzelius et al., 2002	means to reach international audience	Ryan, 2013
lack of structured decision-making	Brookes, 2014	activates otherwise inaccessible networks	Ibert, 2015

Source: own elaboration

Properties of megaprojects have changed over time. Not only are they getting bigger in every dimension. According to their historical-technical development, the term “gigaproject” would be much more appropriate (Flyvbjerg, 2014, p. 4). Starting with the Egyptian pyramids (Brookes, 2014, p. 241) and the Chinese Wall, it was the time of industrialization that has to be marked as the take-off regarding number and scale.

After 1945, megaprojects became a means to implement what was understood as “modern” (Diaz Orueta & Fainstein, 2009, p. 759), often representing dreams and ideas of local elites (Cerro Santamaría, 2013, p. 317). While in Europe housing on greenfield areas or in destroyed inner cities was in the centre of attention, the U.S. brought slum upgrading into focus (Fainstein, 2009, p. 782). Protest movements from the 1960s onwards, accompanied by neoliberal strategies, reduced the number of megaprojects significantly and changed patterns notably (Altshuler & Luberoff, 2003, p. 8). From the 1990s onwards, again a great rise in number can be observed,

particularly mixed-use developments with similar properties in several cities (Fainstein, 2009, p. 768). Not even the global financial crisis from 2008 was able to stop that rise, since megaprojects have been used as investments to combat the recession (Flyvbjerg, 2014, p. 6).

This varied history has left its marks on the academic discourse. For example, the term megaproject has been understood increasingly as an analytic concept (Lehrer & Laidley, 2008, p. 788). Jia et al. (2001) reveal three lines, among which academic research is distinguished: (1) projects properties, (2) the relationship between globalization and civilization and (3) politics and economics (2001, p. 818). Alluding particularly to the latter two aspects, the relationship between megaprojects and urban development shall be addressed in the following chapter.

2.2 Megaprojects in urban development

Within the research literature on megaprojects, there is a significant input from the business perspective, analysing project performances, structures and organisations (see for example Flyvbjerg, 2017; Flyvbjerg et al., 2003). From this managerial point of view, the relationship between giant projects and urbanism is referred to as a type of indirect benefit, that managers cannot capture (Bruzelius et al., 2002, p. 144). However, there is a much higher complexity when evaluating megaprojects at a spatial level. Transformation processes have both positive and negative implications outside of the conversion site itself. Hanakata et al. distinguish between effects in nearby neighbourhoods, at the regional level and changes on a global scale (2018, p. 8). In that context, megaprojects are considered as key drivers for the transformation of the urban imagery and thus as crucial in fostering the city's competitiveness (Grubhauer, 2013). This has been shown in cases such as the Guggenheim Museum in Bilbao, Spain (Plaza & Haarich, 2008), and the Sydney Opera House, Australia (Throsby, 2006), where iconic architecture by celebrity architects is directly linked to the creation of city brands (see for example Adam, 2012; Balke et al., 2018; Brott, 2019; Ponzini, 2011; Sklair, 2013). This phenomenon contributes to the high polarisation surrounding megaprojects. While otherwise inaccessible resources, networks and motivations can be obtained, reality shows cost overruns, planning mistakes, time delays (Ibert, 2015, p. 42), while the projects are often poorly integrated into the urban system (Swyngedouw et al., 2002, p. 548).

From a spatial point of view, in the context of the city's transition from "industrial" to "post-industrial", ports and waterfronts have been at the centre of interest (Shaw, 2012, p. 2158). Once one of the most intensively used areas between production and distribution in the city (Marshall, 2001, p. 5), many waterfronts have decayed in North America and Europe due to the economic

transition (Bunce & Desfor, 2007, p. 252). However, physical disconnections between the port and the city remain (Hall & Clark, 2012, p. 20). In that context, Sandercock et al. observe a general intention to remodel the relationship between city and water across the globe (2002, p. 151), not only to increase the quality of life for inhabitants, but also to improve the image and thus attract capital. Although this phenomenon is not new (Wood, 1965), waterfront redevelopment still causes controversy. In neoliberal contexts, identifying which public will actually benefit from the project – and which not, is a fundamental research question (Boland et al., 2016, p. 119). Waterfront redevelopment is not only a crucial element in competitive growth strategies in a growing number of cities (Desfor & Laidley, 2012, p. 3), but is even seen as “urban panacea” (Marshall, 2001, p. 6) within inter-city competitions, which has been shown in numerous examples such as in Sydney’s Darling Harbour, New York’s Battery Park City and London’s Canary Wharf (Marshall, 2001, p. 5). Also in Spain, several megaprojects have achieved great public attention, such as “Bilbao Ría 2000” and “22@Barcelona” (Casellas & Montserrat, 2008; Dot Jutgla et al., 2010; Vicario & Martínez Monje, 2003). In the transformation processes of these conversion sites, revaluation and displacement in neighbouring quarters, also known as gentrification, are discussed. The process is complex and has changed since it was first observed in the 1960s by Ruth Glass (1964). This development has been described in waves (Hackworth & Smith, 2001). It is the state itself that has changed from being the initiator and financier to a manager of the process. More current examples show the increasing role of professional investors who apply strategies to gentrify urban spaces (Glatter, 2006, p. 159). Against that background, Smith observes that gentrification has become a global strategy of urban development, linked to neoliberalism and the adoption of entrepreneurial logics (2002).

In this context, tourism appears as an additional instrument, increasing the possibilities of consumption in urban spaces. Local authorities around the world intentionally overlap aspects of gentrification with tourism on a spatial scale to attract tourists, although, through doing so, they risk losing the place’s uniqueness (García Herrera et al., 2007, p. 277). Gotham developed the concept of tourism gentrification to describe the appearance of tourist values within the process of revaluation and displacement of lower classes (Gotham, 2005, p. 1102). More recently, the relationship between housing market and tourism has been transformed once again due to digitisation and the rise of sharing economies, which evolved into a so-called platform capitalism (Pasquale, 2016, p. 309). Since then, vacation rental platforms such as Airbnb and Homeaway have experienced tremendous booms (Cócola Gant, 2016; Gravari Barbas & Guinand, 2017). In gentrification research, this current development poses new challenges to existing explanations.

Wachsmuth et al. apply Smith's concept of the rent gap (1987) to the relationship between collaborative tourism and gentrification. The authors show, that Airbnb contributes to a widening of the rent gap not only in absolute terms, but also from a temporal point of view. Following this line of reasoning, the incentive to invest in the housing market does not only increase, but is also generated earlier (Wachsmuth & Weisler, 2018, p. 11). This is relevant because megaprojects might change spatial settings completely, by reshaping the initial conditions for tourism and gentrification in neighbouring quarters.

Apart from this functional relationship between gentrification, urban tourism and megaprojects, an important parallel is the neoliberal framework (Shaw, 2012, p. 2160; Smith, 2002, p. 429). Although neoliberalism focuses on market-oriented solutions (Brenner et al., 2010a, p. 330), public players take over a considerable role, preparing the economic environment for this kind of development (Hackworth & Smith, 2001, p. 464). As regards to gentrification, a strong debate about public instruments is taking place (Van Criekingen, 2011), labelling gentrification with attributes such as "state-led" (Le Grange & Pretorius, 2016) or "state-sponsored" (He, 2007). When it comes to urban tourism, a "commodification of everything" (Keul, 2014, p. 236), along with homogenization processes of urban imageries can be observed within neoliberal contexts (Keul, 2014, p. 238). In terms of megaprojects, Diaz Orueta et al. observe a new generation of megaprojects, that include either strong architectural symbols, or are complex due to multifaceted functions. They notice a growing number of cases with waterfront regenerations, renovations of historic urban cores and conversions of industrial areas (2009, p. 761).

Sponsors and investors seem to have learned from past megaprojects and the public debate surrounding them and have altered their approach accordingly. Megaprojects are promoted in a way, that apparently provides numerous public benefits and addresses the needs of a variety of target groups (Bezmez, 2008, p. 816). This might include mixed-used spaces integrating offices, retail, public spaces, services and housing with different sizes and concepts, which broadens the focus of megaprojects (Lehrer & Laidley, 2008, p. 800). By presenting megaprojects as beneficial for various social groups and by choosing former industrial sites where no direct eviction will take place, protest movements can be minimized (Diaz Orueta & Fainstein, 2009, p. 762). This reduces the risk of such projects considerably. However, turning a formerly contaminated industrial site into a green space might be beneficial for the urban quality, but can also cause ecological or green gentrification (Anguelovski, 2015; Pearsall, 2010). This term refers to the "implementation of an environmental planning agenda related to public green spaces that leads to [...] displacement or exclusion" (Dooling, 2009, p. 621). Moreover, behind the sustainable mask, most of the

megaprojects gain their profits by hotels, large office spaces, shopping facilities and luxury housing, producing a low-quality urbanism, that often lacks urbanity (Fainstein, 2009, p. 783).

Against this background, there is the need to analyse each megaproject and its particular conditions, in order to contribute to a better understanding of the urban framework (Diaz Orueta & Fainstein, 2009, p. 765). This paper aims at contributing to this ongoing process of understanding by means of analysing the megaproject Santa Cruz Verde 2030.

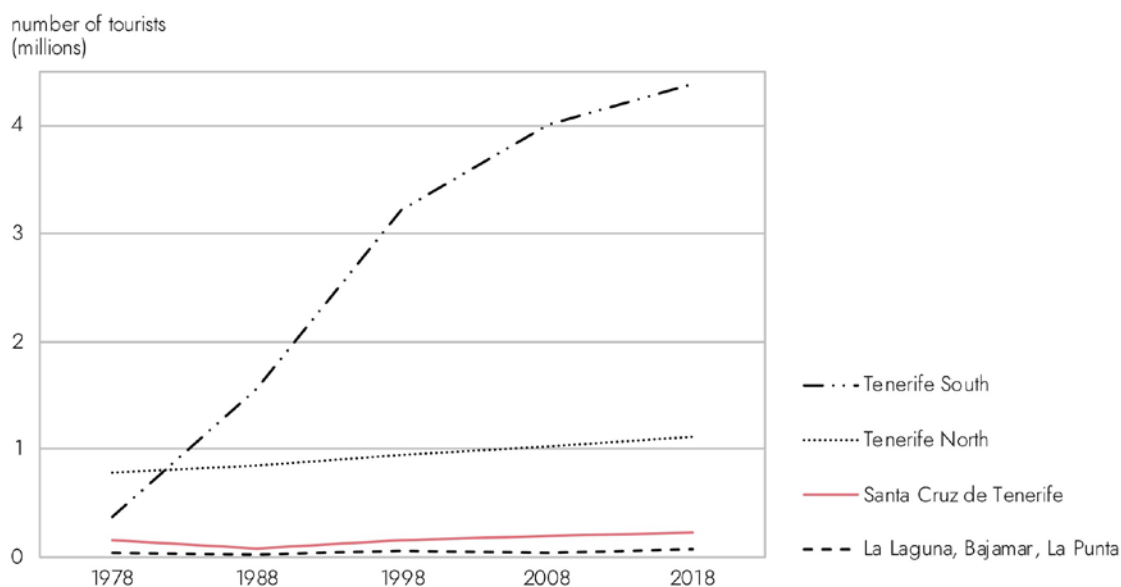
3 Method and case study

The megaproject Santa Cruz Verde 2030 proposes the conversion of an inner-city oil refinery into an urban and mixed-use quarter. Firstly, this chapter introduces Santa Cruz de Tenerife as a case study, revealing its contexts of urban development. Secondly, the focus is shifted to Tenerife's oil refinery in order to understand the spatial-functional relation between industrial site and urbanism. Thirdly, the research methods are explained.

3.1 Santa Cruz de Tenerife: setting the context

With slightly over 200 000 inhabitants, Santa Cruz de Tenerife is both capital of Tenerife and co-capital of the Canary Islands, an Autonomous Community in Spain. Situated only 100 km away from the African east coast, the distance to mainland Spain is about 1 000 km. Due to its remote location within the European context, the archipelago is referred to as ultraperipheral region of the European Union (Wehbe Herrera, 1999). In this context, tourism is one of the major driving forces of urban development on the Canary Islands, as it represents 34.3 % of the gross domestic product in 2018 (Hosteltur, 2019). With more than 14 million tourists in 2017, it is the second most visited tourist destination in Spain, after Catalonia (INE, 2018b). Tenerife, the largest and most populated island of the Canaries, has broken records year after year, increasing its number of tourists annually since 2013 (Turismo de Tenerife, 2019). However, considerable spatial disparities can be identified on the island. While in 2018, the south (76%) and the north (19%) were home to the vast majority of visitors, Santa Cruz accounted for less than 4 % of the total overnight stays on the local market (Figure 3).

Figure 3. Spatial development of incoming tourists on Tenerife



Source: own elaboration based on Turismo de Tenerife (2019)

Therefore, the objective of urban policies has been to open up Santa Cruz to the sea and create a new image of the city (Armas Díaz, 2016, p. 280), in order to increase its tourist and commercial value (García Herrera et al., 2007, p. 281). Complex projects have played a crucial role, reshaping Santa Cruz' urbanism notably. After the Spanish Civil War, the districts El Cabo and Los Llanos were focussed by the city's government. These formerly port-related quarters, inhabited mainly by dock workers and fishermen, experienced not only forced expropriations, but also evictions (García Herrera, 2003). Due to the partial withdrawal of the local oil refinery during the 1990s, a large-scale area of about 1,3 km² left room for the city's government to implement a new form of urbanism. As in other Spanish cities such as in Valencia the "Ciutat de les Arts i les Ciències" (Rius-Ulldemolins & Gisbert, 2018) and in Bilbao the "Guggenheim Museum" (Plaza & Haarich, 2008), spectacular architecture played a fundamental part in this transformation. In Santa Cruz, architects such as Herzog & de Meuron, Calatrava and Valladares (González Chávez, 2018) are involved, designing various public and private spaces (Figure 4).

In Cabo-Llanos, this architecture is linked to new-build gentrification processes, including large shopping centres, leisure and cultural areas (García Herrera et al., 2007). In this respect, tourism plays a fundamental role. Nevertheless, compared to other destinations in Tenerife, Santa Cruz might be considered as a "converted city", where tourist and residential spaces overlap (Fainstein & Judd, 1999, p. 262).

Figure 4. New imagery in Santa Cruz de Tenerife.
Plaza de España [1], El Auditorio [2], Las Torres [3]



Source: own photographs

With both instruments, gentrification and tourism, Santa Cruz has experienced a polarized urban development. In the years of Spain's economic and real estate boom around the year 2000 (Blanco Losada et al., 2013, p. 4; Burriel de Orueta, 2008), Cabo-Llanos has been considered as "golden mile" (Izquierdo, 2008) referring to its new centrality and real estate development. However, the financial crisis put an end to the pre-2008 boom, not only in Cabo-Llanos, but also throughout the city and the archipelago. With 34 % in 2013, the Canary Islands showed the fourth highest unemployment rate among all regions in the European Union (Eurostat, 2018). Santa Cruz is located slightly below that figure with a rate of 31 % (Datosmacro, 2018). In addition to that, the difficult macroeconomic situation caused strong migration outflows. Tenerife's capital lost 8.2 % of its population between 2006 and 2018 (ISTAC Instituto Canario de Estadística, 2019). Since then, the real estate market has been paralyzed, since only 1 % was built in the housing sector in 2016 compared to 2008 (Ministerio de Fomento & Gobierno de España, 2019). In Los Llanos, this is reflected in a high share of still underused parcels, i.e. of around 17 % (Hübscher, 2018, p. 648). Therefore, it is necessary to question the model of urbanism applied in Cabo-Llanos in terms of its sustainability. This has to be done not only facing the economic crisis, but also when it comes to social vulnerability and urban inequality, such as between central spaces and the disadvantaged periphery (García Hernández, 2017, pp. 3–10).

In spite of that, urban reconfiguration in Santa Cruz might have contributed to a strong rise in tourist numbers on the accommodation market of 49 % between 1998 and 2018 (Turismo de Tenerife, 2019) and an even higher growth on the cruise market of 504 % in the same time period (Promotur, 2019). This symbolises Santa Cruz' path of becoming a tourist city. Nonetheless, it implicates harsh consequences for urban development, such as domestication and controlling of public spaces (Armas Díaz, 2016, p. 424). From an economic point of view, an increasing

importance of peer-to-peer market places in the field of holiday homes is observed (Martín Pérez, 2015, p. 22), which is expected to contribute to a shortage of affordable housing in urban areas (Blanco Romero et al., 2018; Lee, 2016; Yrigoy, 2016). Touristification strategies can be observed during the last decades, which are related to the construction of a new industrial port in Tenerife's south and leaves land in Santa Cruz' harbour for tertiary uses (García Herrera & Sabaté Bel, 2009, p. 597). This transformation of Santa Cruz' harbour is an ongoing process of substituting industry-related functions for other urban uses (Díaz Rodríguez et al., 2008, p. 916) and is hence in line with observations in other cities such as Barcelona and Bilbao (see subchapter 2.2).

With the Spanish economy recovering in the last couple of years, there are new perspectives of urban development. However, the pace of these developments in the Canaries appear to be weaker than in other regions, considering the growth of its gross domestic product of 8.09 % from 2008 to 2018, which remains below the Spanish average (INE Instituto Nacional de Estadística, 2019). In Spanish real estate's top markets such as Madrid and Barcelona, new housing bubbles are already discussed (Blanco Romero et al., 2018). Nevertheless it is argued, that the megaproject Santa Cruz Verde 2030 will contribute to post-crisis dynamics, which have been characterized by a quintupling number of housing units being built in the city since 2016, representing the third-highest increase all over Spain (Ministerio de Fomento & Gobierno de España, 2019).

3.2 Reconstructing interdependencies between refinery and urbanism

The oil refinery in Santa Cruz, managed by CEPSA, is the oldest of its kind in Spain. It was constructed in the 1930s due to the strategic location in the Atlantic Ocean (Sagastume, 2016). The chosen area in Santa Cruz is characterized by a direct access to the sea and the proximity to the port (Díaz Lorenzo, 2006, p. 42). It is located southwest only 1000 m away from the historic centre of Santa Cruz (Figure 5) and was thus considered as an urban periphery during its foundational years. At that time, the refinery's environment was characterized by adjacent industries and agriculture (González Chávez, 1992, p. 290). The activities of the oil refinery accelerated the city's economic growth and the location of the industry was regarded as an important investment for the port and the city (CEPSA, 2010), particularly in the context of competition with Las Palmas, the capital of Gran Canaria (González Chávez, 2017, p. 128). In the 1940s, the refinery was extended, growing into the city and limiting the options for urban growth and further expansion (González Chávez, 1990, p. 289). With the Anaga Mountains in the north and the Atlantic in the east, the area of the oil refinery is considered as one of the last options for future urban development in Santa Cruz. This pressure is linked to the city's population growth, as the number of inhabitants

grew from 62 000 in 1930 to 215 000 in 1988 (ISTAC Instituto Canario de Estadística, 2019). The conflict between industry and the need for space was perceived as one of the greatest urban conflicts in Santa Cruz de Tenerife in the 20th century (Hernández Torres, 2003, p. 125). For this reason, local political forces attempted to displace the refinery in the 1980s. In the first instance, CEPSA opposed these municipal plans with the argument that “a refinery does not have wheels” (González Chávez, 1990, p. 296). However, in 1989 the city council and CEPSA signed an agreement to reduce the surface of the refinery and carry out the Cabo-Llanos plan (see subchapter 3.1), which would later turn the area into a new centre with commercial, residential and administrative uses. This megaproject provoked gentrification processes, accompanied by notable increases in land and housing prices in the district (García Herrera, 2003).

Figure 5. CEPSA’s oil refinery “Tenerife” and its integration in the urban context



Source: own elaboration, map based on Open Street Map (2019)

Almost thirty years after the first agreement between CEPSA and the city council of Santa Cruz, the refinery continues to be a polarizing issue in the discussion of future urban development. On the one hand, it is the most important industry on the Canary Islands (López Villarrubia et al., 2008, p. 493). On the other hand, seen from an environmental point of view, Tenerife’s refinery is a considerable pollutant in terms of emissions (López Villarrubia et al., 2008, p. 493). The plant is on the list of the 200 most polluting industries in the European Union (AbcCanarias, 2004). The political pressure peaked in 2013, when the regional government approved a new air quality plan, forcing the refinery to reduce its sulphur dioxide emissions by 29 % compared to 2011 (Rozas & Pérez, 2013). As the refinery’s management refused to modernize the infrastructure, the production stopped during the following years, which caused a loss of 40 million Euros annually

(Martínez, 2016). Therefore, the conflict with CEPSA was transferred to an environmental level. In this context, the former mayor of Santa Cruz, José Manuel Bermúdez, proposed ideas to transform the land into a "new lung" (Rivero, 2015), referring to green spaces, sustainable energy systems and tourism. Three years later, in June 2018, the city council and CEPSA announced the agreement "Santa Cruz Verde 2030". The megaproject is expected to reconfigure urban contexts in Santa Cruz de Tenerife and this paper aims to present a first approximation of this project as a research object. The research methods used in this analysis are presented in the next paragraph.

3.3 Methods

From a methodological point of view, one of the main challenges of analysing the megaproject Santa Cruz Verde 2030 is how recent it is. As it was announced in summer 2018, there is still only limited detailed information available. In spite of that, the objective of this paper is to assess existing material and to develop a first approach.

This study presents a mixed method approach, taking up the previously described spatial levels on which megaprojects are expected to have an impact (see chapter 2). Regarding the conversion site itself, a document analysis based on the public agreement between city hall and CEPSA, is undertaken. Although the document has to be understood as a non-binding declaration of intent, it can be considered as an initial step in the planning process and as a step which reveals how public and private stakeholders imagine the future urban development on the conversion site. Apart from that, newspaper interviews given by relevant stakeholders such as the city's former mayor and other politicians are considered.

Analysing documents is a systematic process, that refers both to texts and images which are generated without the scientist's interference (Bowen, 2009, p. 27). However, these artefacts are not a transparent representation of decision-making processes, but should rather be considered as "social facts" (Atkinson & Coffey, 2011, p. 79), that are constructed and shared in a certain way. The conducted research steps include an initial reading of the texts, followed by a segmenting, which means that data units are identified and analysed by further procedures, including a categorisation system (Maxwell & Miller, 2008, p. 465). As this paper focuses on the announced public-private agreement, the aim is to identify main fields of action in spatial planning and interpret these parameters by putting them into their urban context. However, qualitative document analyses are seen as an open approach and thus enable the researcher to adjust the selected objective during the process (Kuckartz, 2018, p. 46). According to Prior, the chosen focus on content is only one of several possible approaches in document analysis. However, due to the still limited

knowledge of how the public-private agreement came into being, this paper will not analyse the negotiation process or how the document is understood by other actors (2008, p. 825), although this should be the objective of further research.

With regard to the evaluation of possible effects on selected neighbouring quarters (Figure 5), an urban analysis is conducted. The urban analysis is understood as an open approach, highlighting multiple scopes of interpretation that are constructed by the interdisciplinarity of the urban system itself. In this respect, fields of study might deal with social, economic, ecological, spatial, institutional or other aspects (Schwalbach, 2017, p. 37). Consequently, the presented analysis of the megaproject (chapter 4) follows this logic, integrating both quantitative and qualitative methods in urban analysis (Manzi & Jacobs, 2008, p. 29). Muir sees several advantages in conducting that type of urban case study, such as the flexibility of research concept, methodological openness and the enriching “experience of multiple perspectives on the case” (2008). Although the announced public-private agreement presents first planning parameters such as the share of different land uses and building densities, it remains rather uncertain when it comes to the interpretation of these numbers. Against this background, this paper estimates the concrete amount of dwellings, hotel beds, commercial units and green spaces in order to compare them to already existing structures in Santa Cruz. This is done by referring to typical building standards.

With respect to spatial data, maps are created by means of geographical information systems, which show spatial relations between the conversion area and adjacent neighbourhoods with the help of graphic illustrations and abstractions (Schwalbach, 2017, p. 73). Here, a strong focus is put on two juxtaposing quarters adjacent to the conversion site. In that respect, the study carried out by Hübscher (2018) is fundamental, since it offers an analysis of social and spatial properties by means of vulnerability and cluster analysis for 46 quarters surrounding the refinery. Data of this study is reinterpreted and put into the changing urban context of the megaproject Santa Cruz Verde 2030.

4 Santa Cruz Verde 2030: reconfiguring the city?

Based on the described methods, this chapter presents the first research results. Firstly, the main characteristics of the megaproject itself are deconstructed and put into their urban context. The following two paragraphs discuss implications for two adjacent neighbourhoods with diverging urban conditions. However, Santa Cruz Verde 2030 might be considered both as an opportunity to integrate these spaces into the city, but also as a means of gentrification.

4.1 (De)Constructing the megaproject

On 26th of June, 2018, Santa Cruz' mayor and CEPSA's CEO announced the project Santa Cruz Verde 2030, an ambitious plan to transform the local oil refinery into a new urban mixed-use quarter until 2030. The plan focusses not only on the 573 000 m² of the industrial site itself, but also the neighbouring harbour of Honduras. Considered as the last remaining large-scale area for urban expansion, the site itself is characterized by its proximity to the city centre and adjacent residential quarters. This chapter analyses the megaproject and thereby puts its planning parameters into the urban context.

As for the impacts of the megaproject, a distinction must be made between immediate effects, that are directly generated by the deindustrialization process, and long-term effects, related to the new urban development. In this paragraph these effects are analysed from different points of view, and through doing so central aspects, planning parameters and networks are addressed. The argument is put forward that the project does not only imply a considerable revaluation of the conversion site itself, but also contributes to a reconfiguration of urban structures in Santa Cruz.

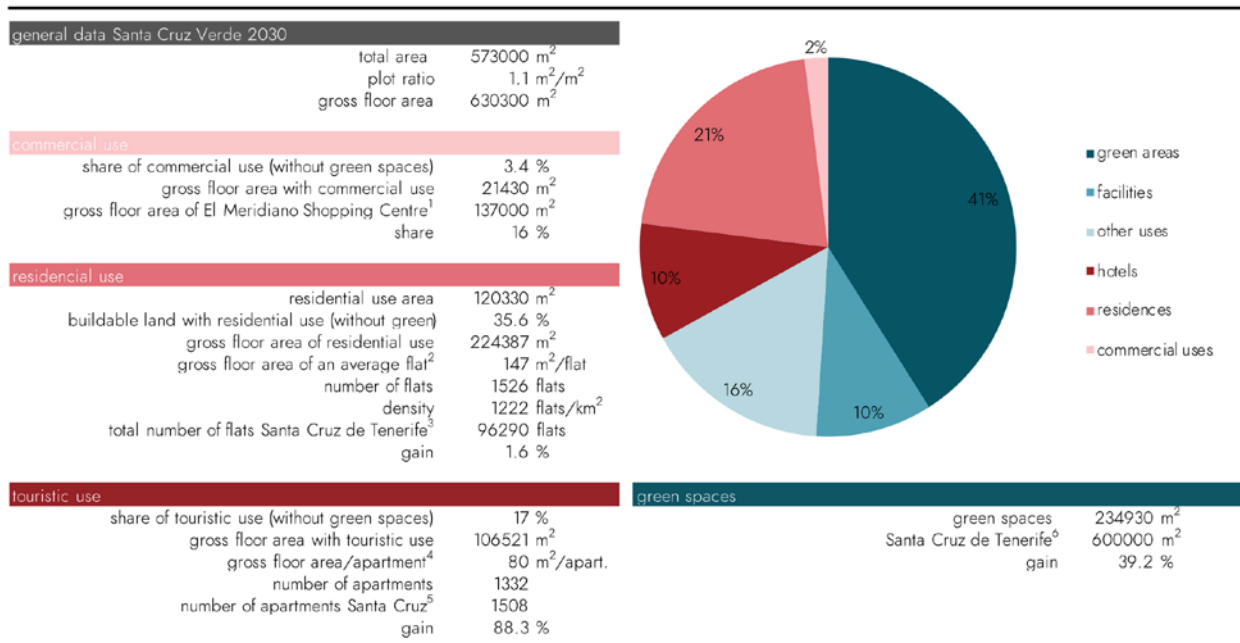
The transformation of the oil refinery to an inner-city urban quarter implies stark impacts on a variety of aspects in Santa Cruz. From an economic point of view, one of the immediate effects is the deindustrialisation of the area, meaning the loss of 200 direct jobs and an even bigger number of indirect jobs related to the industry's activities (Reverón, 2018). Nevertheless, the megaproject is expected to create about 3200 new workplaces, according to best-case estimations by Santa Cruz' former mayor (Torres, 2018). In spite of that, the structural change from industrial to tertiary uses raises the question to what extent current labour forces related to the oil refinery will be employed in Santa Cruz Verde 2030.

From an environmental point of view, a number of studies have already examined the significant role of Santa Cruz' refinery as a polluter, both in terrestrial and maritime systems (Ares et al., 2011; Baldasano et al., 2014; Díaz et al., 1990). Until 2015, 14 quarters had filed complaints to the Canarian government about the impact of the refinery's activities on neighbours' health (Ramón, 2015). Although dismantling the industrial site will take several years, the fact that production processes have currently been paused means that the area is experiencing temporarily reduced emissions, and this had led to immediate positive effects in the air quality. In the long run, the decreasing level of pollution will even contribute to an increasing quality of life in this area. However, possible soil contamination is a more complex issue due to numerous chemical and biological reactions and their persistent character (Alloway, 1999, p. 11), increasing the costs of

preparing the land for other urban uses (Díaz et al., 1990). While the subsurface of the conversion site should be analysed in depth in order to determine where and to what extent soil rehabilitation is an option, the creation of a public bathing zone in the port of Honduras will also pose a problem. Currently, bathing in the urban coast of Santa Cruz is not permitted because of severely contaminated waste waters from the refinery, the local sewage plant and various activities in the city's port (Jiménez, 2016).

Apart from these economic, environmental and social impacts, the megaproject implies a spatial transformation. First and foremost, dismantling the refinery leads to the disappearance of a spatial barrier, that currently isolates some of the adjacent urban quarters. This can be seen as a functional remodeling of the relationship between city and the area of the port-related refinery (subchapter 2.2). Consequently, the announced megaproject might even allow a direct access to the sea for various inhabitants, as the plant is located between the Atlantic Ocean and residential areas. Due to the described perspective of new spatial linkages and new urban functions on the conversion site, a revaluation of land is to be expected. However, in order to estimate what the consequences of the project on the refinery site will be, it is necessary to analyse the first spatial planning concept proposed by the public private agreement. Two thirds of the conversion site will be classified as public land, while one third will be private (Figure 6). From a managerial point of view, the presented agreement leaves several aspects unclear, such as the precise financial planning and the process of decision-making between the involved stakeholders. However, due to the large share of public space within the future quarter, a substantial public investment both in creating and maintaining the spaces is estimated. Although there has been a strong increase of Santa Cruz' public budget, i.e. around 50 % during the last years (2010 to 2018, Populate Tools SL, 2019), the realisation of the megaproject poses a considerable challenge.

Figure 6. Spatial structure and functions of Santa Cruz Verde 2030



¹ Euroinmo, 2014

² high standard, average value in Spain, fourth income quintile, based on average netto/brutto floor area ratio (BK), 2018, p. 581; Eurostat, 2012)

³ 2011 (INE, 2018)

⁴ Hypzert, 2012

⁵ 2018 (ISTAC, 2019)

⁶ without Anaga Mountains (Méndez, 2013)

Source: own elaboration based on Santa Cruz de Tenerife Ayuntamiento (2018)

As Figure 6 depicts, a variety of functions are planned. In order to interpret these quantitative planning parameters (plot ratio, gross floor area, total area), they are put into their urban context and compared to already existing structures in Santa Cruz de Tenerife (see subchapter 3.3). According to the plan, green spaces account for 41% of the total area. The space will have an extension which is three times larger than the city's currently most significant green space, the García Sanabria park. In fact, Santa Cruz Verde 2030 will expand the green areas of the entire city by more than one third. For that reason, the megaproject not only increases urban qualities for adjacent neighbourhoods, but affects the whole urban system, particularly considering microclimatic aspects and amenity values. The significance of the new green space is also communicated in the megaproject's name Santa Cruz Verde 2030 (English: Green Santa Cruz 2030). Nevertheless, at least three unanswered questions remain. First, although integrating a green space with the projected extension would have multiple advantages for the city, it does require tremendous public investment in developing and maintaining the space. Financing this part of the plan is an aspect that is yet to be explained by the city's government and this could prove to be difficult considering the background of austerity politics of the local government. Second, a

clear commitment of the city hall to maintain this space as public is fundamental. In the case of the Cabo-Llanos plan, located to the east of the refinery, it was decided to charge an entry fee to the only available green area, which has to be regarded as a means of exclusion. Third, the quality of the green space must be questioned. This can be done through analysing the topography of the conversion site, its unusual steepness, the surrounding cliffs and the local canyon, 'Barranco del Hierro', which divides the conversion site. These areas will be considered as green spaces, but they will not be accessible from the visitor's point of view. This will influence the quality of the future green space and has already been criticised in other public spaces in Santa Cruz (Díaz Rodríguez & García Herrera, 2010).

The second largest part of the land is dedicated to residential use. As the public-private agreement does not specify the concrete number of dwellings that will be built, Figure 6 presents a first approach which is based on the announced planning parameters. This estimation is necessary in order to assess the megaproject's impact on the urban housing market. Nevertheless, quality, price segment and target groups are still undefined parameters. For that reason, similar living standards as in the Cabo-Llanos plan are taken into consideration. There, due to speculation processes, exclusively upscale housing units have been developed. The figure reveals that 1 526 units are estimated to be built within the conversion site. Compared to the citywide stock of 96 290 homes (ISTAC Instituto Canario de Estadística & INE Instituto Nacional de Estadística, 2018), the project would increase the number of dwellings by only 1.6%. From this point of view, Santa Cruz Verde 2030 does not stand out for its relevance in the city's housing real estate sector. However, residential use will consume one fifth of the project area and is thus given a considerable importance.

Given the demographic and socio-economic development of Santa Cruz de Tenerife, it is necessary to scrutinize this amount of residential use, particularly if the housing units produced are designated solely in the highest price segment. This appears questionable, firstly, considering the background of the last economic crisis. The produced socio-economic vulnerabilities of the inhabitants are reflected in high unemployment emigration rates (see chapter 3). Secondly, since 1991, a continuous shrinkage of the local rental market can be observed (INE, 2018a). This is accompanied by increasing social, economic and residential vulnerabilities of local inhabitants (Piñeira Mantiñán et al., 2018, p. 9) and thus reduces the possibilities to acquire residential property. Although the public-private agreement points out the intention to build social housing (Santa Cruz de Tenerife Ayuntamiento & CEPESA, 2018, p. 3), its final realisation is a matter of financial resources. Apart from that, a political discussion in Santa Cruz, about the amount of social

housing required by Spanish planning law, has been started. Centre-left and left-wing parties such as the Partido Socialista Obrero Español (PSOE), Izquierda Unida (IU) and Sí Se Puede claim that a much larger share, i.e. 40 % of the conversion site, has to be dedicated to social and public housing. In that respect, they also highlight serious obstacles in the field of spatial planning when it comes to reclassifying the refinery's land (La Opinión de Tenerife, 2018, November 1; Tenerife Ahora, 2018). Interestingly, these are the first critical voices concerning the megaproject that Santa Cruz' former mayor José Manuel Bermúdez (Coalición Canaria, CC) has been faced with in the public discussion.

The smallest fraction of the conversion site will be dedicated to commercial uses, which account for two percent of the whole area. According to the announced planning parameters, a total gross floor area of 21 430 m² can be estimated (Figure 6), representing 16 % of El Meridiano, Santa Cruz' largest shopping centre. Compared to the Cabo-Llanos plan, this has to be regarded as a minor commercial surface, where three large-scale commercial centres have been installed (El Meridiano, Nivaria, El Corte Inglés). This might be considered as a reaction to the consequences of the Cabo-Llanos plan, which eroded the dominance of the historic old town of Santa Cruz as the main commercial centre.

According to the agreement between CEPSA and the city hall, 10 % of the total surface will be destined for urban hotels. Apart from that, the document does not specify the standard and extent of the accommodation. Therefore, Figure 6 defines a four star classification of the hotels as a basis of calculation. Taking into consideration an average gross floor area per apartment of 80 m² (HypZert GmbH, 2012), a total apartment number of 1 332 can be estimated. Putting this number into its urban context, two conclusions can be drawn. Firstly, the number of tourist apartments is higher than the number of dwellings in Santa Cruz Verde 2030, which will determine its character as urban tourist quarter. Secondly, the project will increase the number of existing tourist apartments in Santa Cruz by more than 88 %. Both perspectives symbolise an ongoing touristification, a process, that is taking place throughout the whole city (Armas Díaz, 2016; García Herrera et al., 2007). While attracting tourists has been an objective of urban development strategies in the last 60 years or so, different strategies have been implemented. A major focus lies in opening Santa Cruz to the sea, in order to promote cruise tourism and attract day trippers from Tenerife's main tourist destinations Puerto de la Cruz and the island's south. In that context, the Cabo-Llanos district has been reconfigured as a commercial and cultural place, with numerous points of interest for tourist practices. However, accommodation has not played a fundamental role, as there is only one urban hotel in the area. The concept of Santa Cruz Verde 2030 represents a

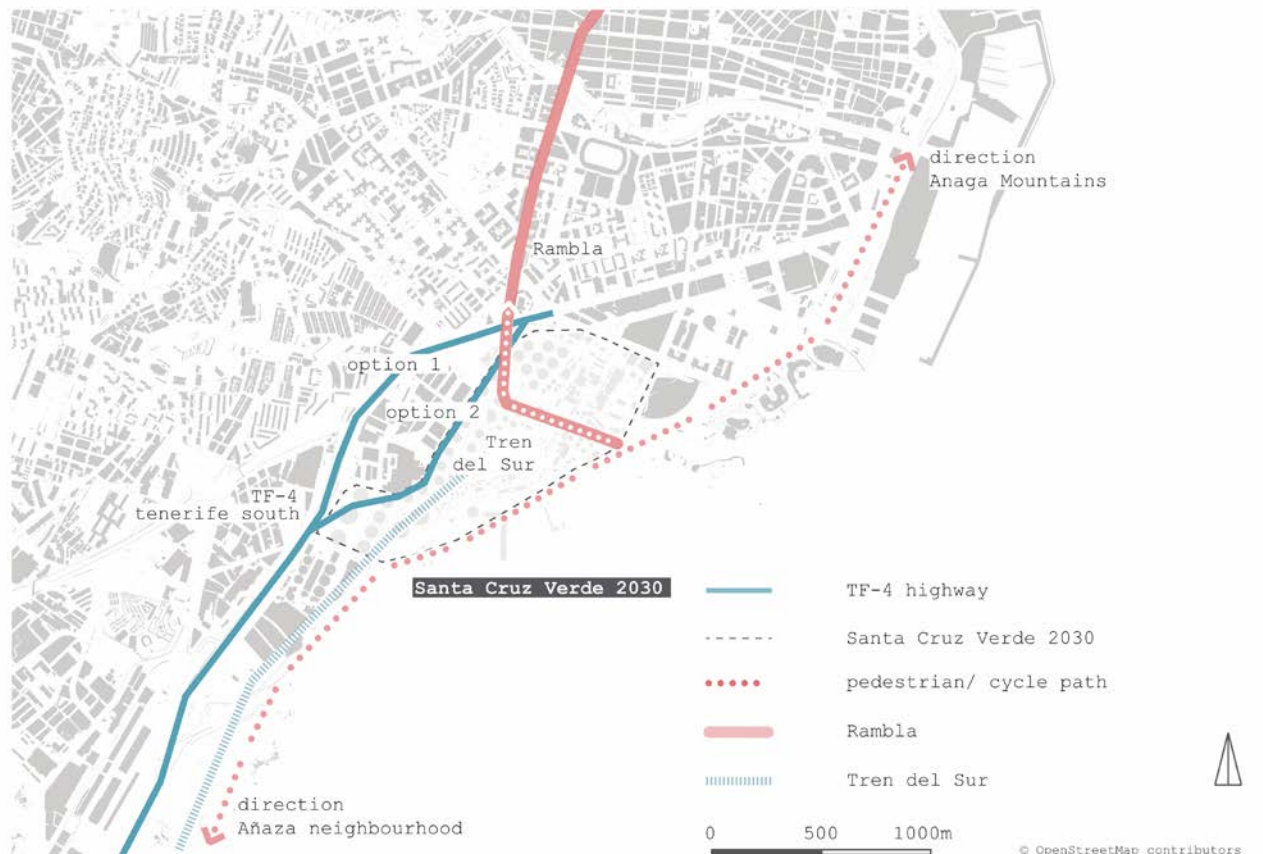
strategic shift in tourism planning, as it includes a considerable amount of tourist accommodation. Apart from that, the plan accounts for extensive green areas and an urban beach, which are both amenities with potential touristic value. Particularly the latter aspect raises public interest, as Santa Cruz still lacks a beach, despite its location near the sea. This has led to considerable public debate about where to create an urban beach in the city (Bermúdez Esparza, 2016), which has been further enriched by the megaproject and the opportunity it presents. Against this background, a dominant role of the megaproject in the city's future tourism model has to be assumed, although the project occupies only 3 % of the city's total surface (own calculation based on Open Street Map & Geofabrik GmbH, 2019).

On an inter-urban level, two measures will have an important impact both on the accessibility of the new urban quarter and on the city. Firstly, Santa Cruz Verde 2030 is supposed to facilitate the project "Tren del Sur" (see Figure 7), a planned railway route connecting Tenerife's north and south (Hernández, 2019). As it will be the archipelago's first railroad line, it will not only change transportation patterns on the whole island, but also adds significant centrality to Santa Cruz Verde 2030, establishing a new hub of public transport on the conversion site (Santa Cruz de Tenerife Ayuntamiento & CEPESA, 2018, p. 4). Secondly, a further extension of the existing cycle paths is planned. Currently, it connects the neighbouring quarter Cabo-Llanos with Anaga Mountains by a coastal route. By extending it to the conversion area, a new connection to the Añaza neighbourhood is projected. This is a quarter which is situated at the outskirts of Santa Cruz, approximately eight kilometres from the city centre. Añaza has been described as a spatially peripheral zone with socio-economic highly vulnerable residents and a deficit in basic services such as adequate public transport (García Hernández, 2017, pp. 12–13). By means of the cycle path extension, new opportunities are given to Añaza, since it generates not only a new link to the rest of the city, but also a new form of reaching the centre without motorized vehicles.

With respect to the decision-making process, a clear contradiction can be identified. Santa Cruz' former mayor guaranteed a participative and transparent planning process not only in the agreement itself (Santa Cruz de Tenerife Ayuntamiento & CEPESA, 2018, p. 6) but also in newspaper interviews (Bermúdez Esparza, 2019) and discussions on Canary TV programs (TVC Televisión Canaria, 2018). However, at least in this initial phase of the project, this has not been the case. Although Santa Cruz' former mayor declares one of the instruments of participation to let the city's residents decide about the future name of the new urban quarter, this appears to be an image-related measure rather than a means of letting citizenship truly participate in urban planning. Apart from that, announcing the public-private agreement with detailed aspects of spatial planning

after years of negotiation behind closed doors between town hall and the refinery’s proprietary cannot be regarded as transparent civic participation. In this respect, Santa Cruz Verde 2030 is a typical representative of large-scale urban development projects, as it reveals clear “democratic deficits” (Swyngedouw et al., 2002, p. 576).

Figure 7. Projected infrastructural changes due to Santa Cruz Verde 2030



Source: own elaboration, map based on Open Street Map (2019)

The future role of CEPSA, the refinery’s operator, also remains non-transparent. Although it will transfer 67% of its current land property to public institutions, the juridical reclassification of the conversion site from industrial to urban land implies an immense increase of value. Despite that, it is not clear if CEPSA will keep its parcels or even develop projects as investor or operator of hotels and housings. CEPSA belongs to Mubadala Investment Company, an investment fund based in Abu Dhabi (Mubadala Investment Company, 2019). The company is an important stakeholder in both the field of energy and infrastructures and in tourism and real estate, which explains the large importance placed on tourism in Santa Cruz Verde 2030 and shows, how international interests are locally mapped within the megaproject.

As discussed, Santa Cruz Verde 2030 is a megaproject with significant effects on urban development in the whole city. While housing and commerce are of relatively minor importance in the project, this is not the case with tourism, transport and green spaces. In this respect, strategies are identified that will reconfigure existing urban patterns. Yet, the question remains, what consequences the transformation of the oil refinery will have in neighbouring quarters. For that reason, the following subchapters present two adjacent districts, that stand out for their diverging development trajectories.

4.2 Los Llanos: keeping on with tourism and gentrification

Los Llanos, located east of the oil refinery and south of the historic centre, has seen stark contrasts in urban development since the end of Spanish Civil War. Once a fishing village at the outskirts of Santa Cruz, it has been transformed into an exclusive quarter, which García Herrera et al. labelled as gentrification process (2007). Industrial sites, the harbour, small handcrafts and fishery shaped the quarter's economy in the middle of the 20th century (García Herrera, 2003). In 1957, Santa Cruz' local government announced the transformation of Los Llanos and the neighbouring district of El Cabo into a new city centre (González Chávez, 2009, p. 1685). Years of expropriation and displacement of the local residents left the land in a state of disuse for more than three decades and caused further marginalization (García Herrera, 2003). After the democratic transition, it was not until 1992, when a new urban development strategy was launched. The so-called Cabo-Llanos plan even included a partial dismantling of the neighbouring oil refinery (chapter 3). As a result, parcels with former industrial functions were reclassified in order to enable other urban uses. A considerable revaluation of Los Llanos took place from that moment on and was characterized by investments from private and public stakeholders. A new public transportation hub has been built as well as departments of the local and regional government and various cultural institutions such as the Auditorium, the TEA Museum of Arts. Private investment has been concentrated in three large-scale shopping centres, the construction of real estate on the housing market and offices (Figure 8). A significant part of this "modern" urban imagery in Los Llanos has been designed by notable architects, with a high symbolic and global perspective (González Chávez, 2009, p. 1693).

Due to the considerable public and private investment, the neighbourhood of Los Llanos has gained new centralities. It is the incoming area of the city for both public and private transport, as it provides four types of access with insular importance: the TF-4 motorway towards the south of Tenerife, the TF-5 route connecting Santa Cruz with San Cristóbal de la Laguna, the second largest city of Tenerife, the Avenida de Anaga which connects rural areas north of Santa Cruz with the

urban centre and finally the public transport hub, which links Santa Cruz with the island by means of buses and a tram line. However, Santa Cruz Verde 2030 will have an impact on three of the four named transport systems.

Figure 8. New urbanism in Los Llanos: retail [1], housing [2], tourism and recreation [3]



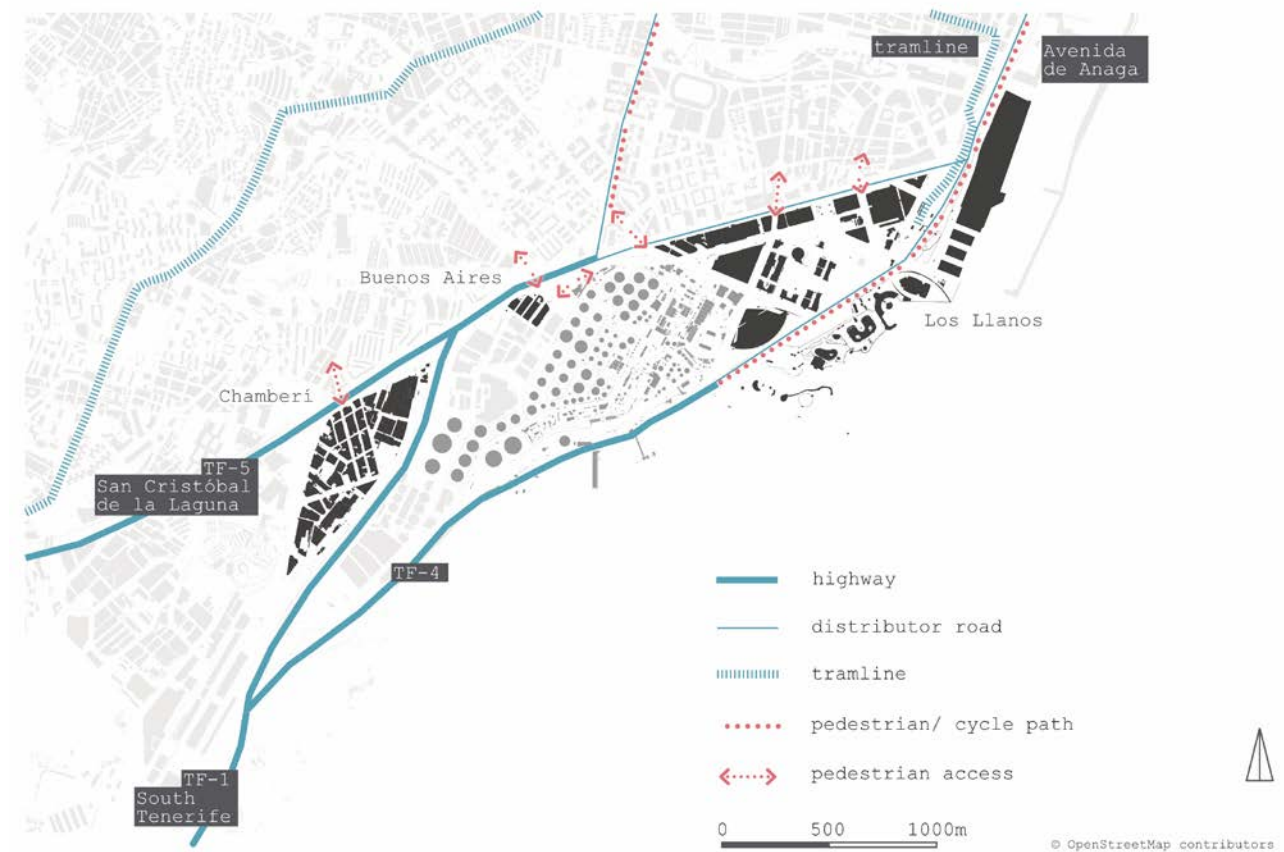
Source: own photographs

Firstly, the plan proposes the idea of displacing the TF-4 highway (Santa Cruz de Tenerife Ayuntamiento & CEPESA, 2018, p. 4). Currently, it is located between the conversion site and the sea (Figure 9) which not only inhibits the development of further urban relations to the water but also makes the south of Los Llanos the main entrance for port related traffic. The current spatial disconnection between port and city thus represents what has been observed internationally in other urban areas (Hall & Clark, 2012, p. 20). However, the removal of this urban barrier in Santa Cruz will not only remodel its southern waterfront. The projected shift of the highway from the south of the conversion site to its north is also followed by a change of transportation flows in Los Llanos which will redirect transport traffic to the north of the area and will leave its south for alternative uses.

Secondly, the plan foresees both a pedestrian and a cycle path located on the current TF-4 highway. It will connect the rural area of Anaga to the north of the city with Añaza (Santa Cruz de Tenerife Ayuntamiento & CEPESA, 2018, p. 4). In addition to that, it is planned to prolong the existing Rambla, an inner-city main road with an important share of pedestrian and green spaces, towards the conversion site (Santa Cruz de Tenerife Ayuntamiento & CEPESA, 2018, p. 4). It will lead directly to the Palmetum in Los Llanos, a landfill that has been transformed into a botanical garden. These ideas have the potential to modify the urban transport system of Los Llanos, which has been planned as a car-friendly quarter with multilane roads and a rather poor urban amenity value from the point of view of pedestrians.

Thirdly, within Santa Cruz Verde 2030, the construction of a new public transport hub is outlined, which will facilitate the “Tren del Sur” (see subchapter 4.1 Santa Cruz de Tenerife Ayuntamiento & CEPESA, 2018, p. 4). However, the public-private agreement does not specify whether this new transport centre complements or replaces the already existing hub in Los Llanos and thus leaves the role of this quarter as the current centre of urban public transport uncertain.

Figure 9. Current urban infrastructure in Los Llanos, Buenos Aires and Chamberí



Source: own elaboration, map based on Open Street Map (2019)

In the field of commerce and retail, Santa Cruz Verde 2030 is expected to strengthen Los Llanos as one of the city’s main centres. On the one hand, the megaproject itself includes a small share of commercial uses. These areas will probably cause little competition with already existing retail structures in Los Llanos due to their small volume, as previously discussed (subchapter 4.1). On the other hand, the project includes the creation of a new urban quarter with an important share of housing units and tourist accommodation. Based on the immediate proximity to shopping facilities in Los Llanos, retail is expected to increase its target groups within the catchment area. The city centre, however, will profit less from the increased numbers of tourists and inhabitants on the

conversion site as the new site is a larger distance away from the old town (1 km) compared to Los Llanos (100 m, Open Street Map & Geofabrik GmbH, 2019).

From a spatial point of view, the centrality of the quarter is increased. Currently, it is located at the border of the urban zone. Santa Cruz Verde 2030 will eliminate the existing barrier and provide new links between Los Llanos and the conversion site. Consequently, a rising number of visitors in cultural and leisure facilities can be expected. Contrary to that, the future prospects of the Parque Marítimo, an open-air bath in Los Llanos should be questioned. Currently, this infrastructure is the only open-air sun and water related leisure activity in the whole agglomeration. As Santa Cruz Verde 2030 will transform the port of Honduras to the first citywide urban beach, a considerable competing touristic product will be generated. On the other hand, inhabitants from Los Llanos are potential visitors for the conversion site as well, particularly when it comes to recreational functions. Los Llanos, despite its large spatial extension of about 1 km², provides only one green area. However, the so-called Palmetum is not a public space. The projected extensive green areas within the new conversion site might compensate for this urban need of local inhabitants.

Considering the aforementioned aspects, Santa Cruz Verde 2030 is expected to have a strong impact on the urban development in Los Llanos. From a social point of view, Los Llanos is characterised by a strong population growth over the last ten years, which should be considered within the context of Santa Cruz' stagnation (Figure 10). Only 9 %, of the population being aged 65 years or older is a much lower proportion than in other reference areas. Moreover, only 1 % of the population lacks education or professional formation, a figure six times lower than the average in Santa Cruz.

Within the spatial analysis, Los Llanos stands out for its unique structure. It is characterized by housing blocks with an average of 8.5 floors (Figure 10) and by having the most recent average date of construction across the whole city (1990). Therefore, the physical state of the buildings there is considerably better than in other neighbouring quarters, which has already been analysed in a cartographic analysis (Hübscher, 2017, p. 85).

The Figure presented also shows the current paralysis of Los Llanos' real estate market which has been ongoing since the economic crisis in 2008. Even now, 17 % of all plots of land have not yet been built on and remain without function, and are thus still having a disrupting effect on the urban fabric (Hübscher, 2018, p. 648). In spite of that, the relatively low share of vacant housing units and the population increase can be seen as an indicator of persisting high demand in the housing market. As the megaproject will strengthen the centrality of the whole southern axis of Santa Cruz,

an increasing demand linked to rising real estate prices may result. Such a stimulus could even reactivate the stagnating real estate development in the zone.

Figure 10. Socio-spatial characteristics of Santa Cruz and relevant neighbourhoods

	social					spatial						
	total population, 2017	demographic development 2007-2017	inhabitants older than 65 years, 2017 [%]	inhabitants without education 2017 [%]	tenants, 2011 [%]	average year of construction, 2017	average number of storeys, 2017	housing units with private front garden, 2017	physical state of real estate*, 2017	vacant housing units, 2017 [%]	vacant shops, 2017 [%]	
Santa Cruz de Tenerife	203692	-10,0	18,3	7,6	18,3	-	-	-	-	-	-	
Los Llanos	3253	108,3	8,9	1,2	18,2	1990	8,5	0	1,84	6	17	
Buenos Aires	276	-13,8	17,6	13,8	21,2	1967	2,1	27	2,30	39	68	

*scale: 1 (new construction or just renovated); 2 (partially renovated); 3 (without renovation); 4 (dilapidated)

Source: Hübscher (2018) & INE (2018a)

4.3 Buenos Aires: beyond segregation?

Buenos Aires is an administrative unit with one of the largest spatial extension within the urban nucleus. It integrates both the current conversion site of the oil refinery and a significant part of Santa Cruz' south coast (Ayuntamiento de Santa Cruz de Tenerife, 2018). It only has a population of 276 inhabitants, a much smaller figure than Los Llanos (Figure 10). However, the residential area of Buenos Aires is concentrated between four parallel streets with a total area of only 2.4 hectares (Figure 9). Therefore, the following analysis concentrates on the quarter's residential area.

The neighbourhood of Buenos Aires is located north of the oil refinery. Compared to Los Llanos, it is still much more linked to the industrial site. This is because it is not only defined by it spatially in the south, but also because its structures were built, only a couple of decades after the foundation of the refinery, in the 1960s as a working-class quarter. The neighbourhood is located within an industrial zone composed of several warehouses and offices to the southwest of the area. To the north Buenos Aires is surrounded by the TF-5 highway.

From a demographic point of view, shrinking processes appear as a dominant factor of urban development. Over the last ten years, the neighbourhood has lost 13.7% of its population. In addition, the share of inhabitants without formal education is almost twice as high as the city's average. Compared to Los Llanos and Santa Cruz, there is a higher percentage of tenants without housing property (Figure 10).

Upon examining the spatial character of the neighbourhood, the building structure stands out in comparison with Los Llanos. First, the density in Buenos Aires is much lower, as the average

number of floors is only 2. 1. Second, 27 % of the dwellings have a front garden or a private terrace (Hübscher, 2017, p. 89). Additionally, the author’s comparative study reveals the high value of unoccupied dwellings. With 39 %, Buenos Aires has the highest figure among the 55 studied neighbourhoods in Santa Cruz. In the commercial sector, the situation is even more severe, with 68 % of shops being vacant. Both figures confirm the spatial consequences of a declining population in the area, and this is accompanied by a serious physical deterioration on the housing market and the second worst physical state of buildings in the whole area (Figure 12, Hübscher, 2017, p. 89).

Figure 11. Access to Buenos Aires [1–3]. Informal settlement Pancho Camurria [4] and housing structures in Buenos Aires [5–6]



Source: own photographs (2018)

With regard to motorized traffic, the residential area of Buenos Aires is well connected. There is direct access to the city centre via the TF-1 and TF-5 highways (Figure 9). However, for pedestrians and cyclists, Buenos Aires has only two means of access to the rest of the city, which both lack security and accessibility for users. The northern access is provided by two tunnels, crossing below the TF-5 highway (Figure 11). The small pavements provide little usability particularly for non-motorised travel. The second access is located east of the quarter and leads directly to Los Llanos. Although the pavement is wider here, pedestrians must walk over 600 m next to the highway to reach the neighbouring quarter (Figure 11.3).

In addition, public spaces show several deficits as well. Firstly, roads are in poor condition due to their age, the intensive industrial use and the lack of investment (La Opinión de Tenerife, 2018, April 4). Secondly, the proximity to the municipal shelter, a centre for people in need, and the informal urbanization of Pancho Camurria are related to sanitary deficits in public spaces. In this respect, the increasing number of used syringes, due to drug consumption, found in public spaces (Ginovés, 2015) and the poor general cleanliness of the area (Méndez, 2016) are considered as problems.

In a spatial sense, Buenos Aires is isolated because of its location between the highway and the industrial zone and this has led to a spatial marginalisation of its inhabitants. The Santa Cruz Verde 2030 plan might change that situation at three different levels. Firstly, the project will provide new access to the neighbourhood through the prolongation of the existing Rambla system, which will cross the quarter's east (Figure 9). This road facilitates the pedestrian and cycle traffic to both the city centre and Los Llanos, the main commercial and cultural centres. Secondly, the megaproject integrates large green areas, and thereby increases the quality of life in adjacent neighbourhoods. As Buenos Aires is a quarter which currently lacks green and public spaces, this could result in a considerable revaluation of this area, which is possibly followed by upgrading and eviction processes (Dooling, 2009, p. 630). In addition, the megaproject opens Buenos Aires to the sea by transforming the industrial port of Honduras into a recreational beach zone. This would make Buenos Aires the closest neighbourhood to an urban beach in Santa Cruz de Tenerife, as it is located only 600 m away from the sea (Open Street Map & Geofabrik GmbH, 2019). Thirdly, Santa Cruz Verde 2030 will link Buenos Aires with a quarter, where new build residential and touristic functions play a dominant role, and thus offer services to tourists and new inhabitants in the zone.

Santa Cruz Verde 2030 reconfigures the urban situation of Buenos Aires in a radical way. It will transform its adjacent area from a neighbourhood surrounded by industry to a neighbourhood next to a new zone of urban expansion. The megaproject is expected to remove several physical barriers, that currently limit Buenos Aires. From a functional perspective, this might lead to revaluation processes, both in the local economy and on the housing market. However, it can be argued, that with 39 % of the housing units unoccupied, there is a large gap in the market, and this will absorb one part of a potentially rising demand.

Aside from the above mentioned issues, the proposed relocation of the TF-4 highway from the south to the north of Buenos Aires (Figure 9) remains an uncertain factor of development. While

the proposed plan is clear about the dismantling of the road in order to enable an opening to the sea, the public-private agreement does not specify, where the highway will be relocated. According to the document, it will be built to the north of the conversion site (Santa Cruz de Tenerife Ayuntamiento & CEPSA, 2018, p. 4). This leaves two options for discussion, namely whether to put the highway to the north or to the south of the residential part of Buenos Aires. Each of these options would have completely different consequences for the quarter.

5 Conclusion

This paper analyses the megaproject Santa Cruz Verde 2030 on Tenerife, Spain, as it was announced in summer 2018. The proposed plan can be regarded as a further step within the city's agenda to remodel its waterfront and hence symbolises Santa Cruz' structural change from industrial to tertiary uses – a process linked to neoliberal logics observed across the globe.

The paper starts giving a first overview of research on megaprojects in order to identify main characteristics and the current academic discourse. Megaprojects are extremely complex, show considerable difficulties from different points of view, but also reflect understandings of urbanism in their respective time period. Megaprojects are seen as catalysts that both foster transformations and gain wide public interest. However, they are often linked to gentrification, since they can account for part of the process itself by advancing or even initiating it. Through the so-called green gentrification, the complex interrelation between megaprojects and urban development is outlined. It has been shown that it is particularly the waterfront, which has been at the centre of redevelopment strategies in numerous cities, serving as a showcase of how neoliberal approaches translate to the making of the urban fabric. Since megaprojects have caused protest movements for various reasons, their characteristics have adapted over time. As described in chapter two, a new generation of megaprojects, with a much more sustainable image than their predecessors, can be observed.

Santa Cruz Verde 2030 falls into this category of a new type of megaprojects as it offers a variety of uses and sustainable concepts and thus corresponds with current trends observed by academics. This paper shows the significant impact at the municipal level as it will shift the current orientation of the city towards its southwest. This is an ongoing process that has already been initiated by the Cabo-Llanos plan, a megaproject starting in the 1990s in a neighbouring quarter that remodelled an important part of the city's waterfront. The new centralities are expected to provoke strong touristic interest based on the supply of holiday accommodation and Santa Cruz' first urban beach. This touristification of space will take place not only on the conversion site itself, but also has a city-

wide relevance based both on the quality and quantity of projected touristic uses and the promoted opening of the area to the sea.

For adjoining neighbourhoods, this transformation process is expected to have different consequences. In Buenos Aires, a spatially segregated quarter, new centralities could change the socio-economic and urban characteristics of the zone completely. Although an integration into the megaproject is desirable in order to overcome segregation and increase the quality of life of residents in Buenos Aires, revaluation and displacement are also expected since the literature offers numerous similar examples in the field of green gentrification. On the one hand, this implies an opportunity of gaining socio-economic wealth for those inhabitants with housing property in Buenos Aires. On the other hand, the process can potentially lead to the displacement of tenants on the rental market. This would add to the environmental injustice (Anguelovski, 2015, p. 31) that they have already suffered as a result of contamination over the last decades. These processes might even be intensified by tourism fuelled by peer-to-peer platforms (Wachsmuth & Weisler, 2018) once Buenos Aires is linked functionally to new recreational spaces on the waterfront. With respect to sustainable urban development, these phenomena should be monitored critically.

In Los Llanos, the change is expected to be less intense, since the quarter has already faced gentrification processes and has seen substantial real estate investment over the last thirty years. However, Santa Cruz Verde 2030 might reactivate the paralysed property market in Los Llanos, which is still recovering from the economic crisis in 2008. This assumption is based on numerous functional and spatial linkages proposed between both megaprojects in the public-private agreement.

Even one year after the official announcement of Santa Cruz Verde 2030, it surprises that only little critical discussion about the concept itself has taken place so far. This phenomenon goes in line with what other scholars have regarded as new generation of megaprojects, which undermine protest movements by presenting a variety of uses and a sustainable image (Diaz Orueta & Fainstein, 2009; Lehrer & Laidley, 2008). In that sense, Santa Cruz' megaproject is pictured as "panacea" (Marshall, 2001, p. 6), addressing several needs of the city, such as green and public spaces, sustainable mobility concepts and an apparently different economic model. Taking up the research interest that Boland sees in the neoliberal contexts of waterfront redevelopment (subchapter 2.2), it must be questioned, whom the real benefits are allocated to (Boland et al., 2016, p. 119). The case of Santa Cruz Verde 2030 shows how place-specific logics of an apparently ecological objective to revegetate an industrial conversion site is linked to the interests of

an international stakeholder (CEPSA and Mubadala Investment Company) and used to open the city to tourism. Hence, the project adds further evidence to the ongoing trans-nationalisation trends on the Spanish property market (Janoschka et al., 2019, p. 2). That raises doubts concerning the narrative of the large public benefits induced by private capital and should thus be further investigated. Seen from a place specific perspective, this new megaproject distinguishes itself considerably from the Cabo-Llanos plan. The current project not only contains a much smaller quantity of housing units and commercial functions, but also significantly more public green spaces. This indicates what scholars call a learning process in megaprojects, caused by the intrinsic motivation to avoid protest movements (Diaz Orueta & Fainstein, 2009, p. 762).

Although the project might alter due to the political change in the city's government, this paper argues that debating the announced planning document, treated as a "social fact" (Atkinson & Coffey, 2011, p. 79), helps to understand the planning approach of public and private stakeholders at that time. It also contributes to start a critical public discussion of how to plan an important share of the city's southern waterfront. This is particularly relevant, since the city's new government has still not revealed its objective concerning the megaproject. Hence, there is still the opportunity for enabling an open and participative planning process. It is Santa Cruz' task to take opportunities, resources and civic necessities into consideration in order to conceptualise a sustainable megaproject in the city's last important central space for urban expansion. In contrast to the political rhetoric surrounding the project, an academic monitoring of this process will help to reveal true characteristics of the project and make it more sustainable, socially just and transparent. However, whether the quarter will be built primarily for visitors, tourists or for Santa Cruz' inhabitants is yet to be determined.

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