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Can the affordable housing in Portugal be comfortable investment?

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Master in Finance

Supervisor:
PhD, Rui Manuel Meireles dos Anjos Alpalhão, Visiting Full Professor, Iscte – Instituto Universitário de Lisboa

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BUSINESS
SCHOOL

Department of Finance

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Abstract

One of the most pressing challenges in modern European cities has been housing affordability, and Lisbon is no exception. In recent years, the gap between household income and housing costs has widened, placing increasing pressure on both families and policymakers. In response, the *Câmara Municipal de Lisboa* launched the *Programa Renda Acessível*, a large-scale initiative designed to promote social inclusion through long-term public-private partnerships.

This analysis focuses on the financial and strategic evaluation of the Benfica urban development project, the inaugural investment of Marcellus Capital, a Portuguese institutional fund dedicated to real estate projects with social and economic impact. The research seeks to answer a central question: Can investing in affordable housing be financially sustainable in Portugal?

To address this question, the study develops a financial model that interprets the concession structure through the lens of private equity investment. It examines how capital can be mobilized responsibly, without compromising the public mission of affordable housing. Through market analysis, internal assessment, and financial modelling, the project explores whether a balance can be achieved between economic return and social value creation.

The result of this business plan aims to contribute to a broader discussion on how Portugal can create conditions for institutional investment in housing that is accessible, sustainable, and inclusive.

Keywords: Business Plan, Residential Real Estate, Housing

JEL Classification System: R3; R30; R32; R38

Resumo

Um dos desafios mais prementes das cidades europeias modernas tem sido a acessibilidade à habitação, e Lisboa não é exceção. Nos últimos anos, o fosso entre o rendimento das famílias e o custo da habitação tem-se alargado, exercendo uma crescente pressão sobre os agregados familiares e sobre os decisores políticos. Em resposta, a Câmara Municipal de Lisboa lançou o Programa de Renda Acessível, uma iniciativa de grande escala concebida para promover a inclusão social através de parcerias público-privadas de longo prazo.

Esta análise centra-se na avaliação financeira e estratégica do projeto de desenvolvimento urbano de Benfica, o investimento inaugural da *Marcellus Capital*, um fundo institucional português dedicado a projetos imobiliários com impacto social e económico. A investigação procura responder a uma questão central: poderá o investimento em habitação acessível ser financeiramente sustentável em Portugal?

Para responder a esta questão, o estudo desenvolve um modelo financeiro que interpreta a estrutura da concessão sob a perspetiva do investimento em capital privado. Examina de que forma o capital pode ser mobilizado de forma responsável, sem comprometer a missão pública de proporcionar habitação a preços acessíveis. Através da análise de mercado, da avaliação interna e da modelação financeira, o projeto procura compreender se é possível alcançar um equilíbrio entre o retorno económico e a criação de valor social.

O resultado deste plano de negócios pretende contribuir para uma reflexão mais ampla sobre como Portugal pode criar condições para o investimento institucional em habitação que seja acessível, sustentável e inclusiva.

Palavras-Chave: Plano de negócio, Imobiliário residencial, Habitação

Classificação JEL: R3; R30; R32; R38

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List of Abbreviations

r_f – Risk Free Rate

r_e – Cost of Equity

β – Systematic Risk

$[E(r_{m)} - r_f]$ – Market Risk Premium

BREEAM - Building Research Establishment Environmental Assessment Method

CAPEX – Capital Expenditure

CAPM – Capital Asset Pricing Model

CF – Cash-Flow

CML – Câmara Municipal de Lisboa

CMVM - *Comissão do Mercado de Valores Mobiliários*

Dep - Depreciations

DCF – Discounted Cash-Flow

EBIT – Earnings Before Interest and Taxes

EBITDA – Earnings Before Interest, Taxes, Depreciation, and Amortization

EBT – Earnings Before Taxes

ECB - European Central Bank

EGI - Effective Gross Income

ESG - Environmental, Social and Governance

GTPRA - *Grupo de Trabalho do Programa Renda Acessível*

IPO - Initial Public Offering

IRR – Internal Rate of Return

FCFE - Free Cash Flow to Equity

FCFF - Free Cash Flow to the Firm

FFMS - *Fundação Francisco Manuel dos Santos*

LEED - Leadership in Energy and Environmental Design

NOI – Net Operating Income

NOPAT – Net Operating Profit After Taxes

NPV – Net Present Value

OPEX - Operating Expenses

p.a. - per anuunm

p.d. - per decade

PPPs – Public Private Partnerships

p.q. - per quarter

PRA - *Programa de Renda Acessível*

REIT - Real Estate Investment Trust

RETT - Real Estate Transfer Taxes

SF – Square Foot

SIC - *Sociedade de Investimento Coletivo*

SICAF - *Sociedade de Investimento Imobiliário de Capital Fixo*

SIGI - *Sociedade de Investimento e Gestão Imobiliária*

Sqm – Square meter

SRU - *Sociedades de Reabilitação Urbana*

STP - Segmentation, Targeting and Positioning

STRs - Short-term rentals

SWB - Subjective well-being

TV – Terminal Value

WC – Working Capital

1. Identification of the Promoter and the Proposal

Marcellus Capital, S.A. operates as a hetero managed *Sociedade de Investimento Coletivo* (SIC) whose portfolio management is performed by a management company duly authorized by the *Comissão do Mercado de Valores Mobiliários* (CMVM). The fund's corporate model originated as a *Sociedade de Investimento Imobiliário de Capital Fixo* (SICAFI) but, following the consolidation introduced by Decree-Law No. 27/2023, is framed under the current SIC regime. This legal structure ensures transparency, risk segregation, and professional governance fully aligned with Portuguese regulation. Guided by the principles of rigor, transparency, financial and social responsibility, capital preservation, alignment of interests, and sustainability, Marcellus Capital's mission is to bring private and institutional capital into projects with predictable, stable returns, contributing to sustainable urban development and the reinforcement of social and territorial cohesion in Portugal. Its vision is to become a Portuguese reference fund in reconciling financial prudence with measurable social impact, helping to professionalize institutional investment in housing and urban regeneration.

Strategically, Marcellus Capital Investment Fund positions itself as a long-term institutional investor in real assets, with a preference for asset backed, low volatility structures and conservative leverage, acting as a bridge between national and international private capital. The fund focuses on stable opportunities in essential sectors, particularly, housing, urban regeneration, and proximity infrastructure were contractual frameworks and public policy alignment support downside protection.

Governance is centered on a three-member Board of Directors, namely, Abel Pereira (Executive Director), Filomena Costa (Finance and Investment Director), and Lara Ramalho (Development and Operations Director). At this early stage, with Benfica as the market entry, the fund adopts a lean organizational model, outsourcing operational asset management functions while retaining full strategic oversight and quality control through specialized partners. Within this strategic framework, the Benfica Urban Development Project emerges as the fund's inaugural investment and the practical expression of its investment vision.

Located in one of the sites proposed under *Programa de Renda Acessível* (PRA), the Project Benfica is conceived for design, construction, and long-term management of a multifamily residential complex operated under a mix of affordable and market rate leases, complemented by retail and services areas and parking facilities. As a first operation that can be replicated and

scaled to other locations, Benfica offers defining features that match the fund's target, such as: a 90-year concession horizon, a target market of middle income households, high predictability of cash-flows (including rent default insurance within the PRA framework applied to each lease), and ESG alignment. The main objective is to address Lisbon's structural rental pressure by delivering 688 new homes, with at least 67% reserved for affordable rent and up to 33% at market rates, while catalysing urban rehabilitation in the surrounding area and enabling service provision that supports neighbourhood vitality.

The PRA's innovative character lies in the concession model for the operation of regulated affordable housing, a relatively untested approach in Portugal compared with other European countries. The Project Benfica requires institutional cooperation between the public sector and a professional private operator under a long duration, asset backed structure that aligns incentives and protects capital. In practice, the model establishes a predictable, contract driven build to rent framework which is completely distinct from build to sell cycles where stewardship of the asset over time, measurable social outcomes, and prudent financing converge. The potential impact is twofold as there are social and public policy gains by expanding access to suitable housing for middle income households, and clear private sector value through stable, long-term cash-flows and disciplined risk management. If successful, the operation provides a replicable platform for further scaling in other locations, positioning Marcellus Capital Investment Fund to lead consistent, program compatible developments that can be financed by domestic and international institutional investors.

In competitive positioning terms, there are two reference philosophies, from one side, the Fortitude Capital Investment Fund (more aggressive risk posture and lower social impact orientation) and Calatrava Grace Investment Fund (more conservative risk stance and higher social impact focus). The Marcellus Capital Investment Fund maintains moderate risk aversion, slightly more aggressive than Calatrava Grace coupled with a meaningful, evidence based social commitment that might be less pronounced than Calatrava's but still clearly embedded in this specific proposal. This balanced stance supports the fund's ambition to operate as a trusted, long horizon partner for public entities and private capital alike, while advancing a practical, institution grade pathway for affordable housing investment in Portugal.

2. Literature Review

This chapter begins with an overview of the socio-economic factors that shape urban welfare and living standards across European cities. It examines how demographic and economic trends influence access to housing and essential services, establishing the foundation for understanding housing affordability as a key driver of social well-being. The discussion then turns to housing policy, analysing the Portuguese experience and comparable European programs that combine public governance with private investment to expand affordable rental supply.

The following sections explore the impacts from digital innovation and sharing economy in housing markets, management efficiency but also in the way that create new affordability challenges. This chapter concludes how future social needs, focusing on ageing, migration, and ESG priorities will redefine housing demand and sustainability in Europe and, specifically, in Portugal. The structured approach enhances the awareness of how housing, innovation, and policy interact to support inclusive urban development.

2.1 Socio-Economic Analysis

Urban social well-being in Europe depends on the interaction between objective "liveability" conditions, such as safety, health care, schools, transport, environmental quality but, also, residents' subjective evaluations of life. Comparative research across European cities shows that places offering broad access to essential services tend to report higher subjective well-being (SWB), since infrastructure and service provision underpin productivity, social cohesion and everyday life quality (Mouratidis, 2021). At the same time, the socio-economic position usually measured by education, wealth, professional role and neighbourhood deprivation is consistently associated with self-rated health and life satisfaction, partly mediated by social support and health behaviours (Ahrenfeldt et al.,2017).

Taken together, policies which reduce cost of living pressure (notably housing) and expand service access can improve both individual welfare and city level outcomes.

2.1.1 Urban Welfare

European scholarship operationalises urban welfare through composite indicator systems and explicit analytics that can be used for benchmarking and policy targeting. Municipal quality of life indices aggregates socio-economic, environmental and infrastructural measures into

transparent scores, often adapting multicriteria decision methods or efficiency concepts to compare cities under consistent weighting schemes, large-sample applications in France demonstrate how these tools identify territorial disparities and policy priorities for requalification (Renard & Pardo, 2018).

The outputs from the "smart/sustainable city" indicator sets reinforce the need to combine objective measures (e.g., transit access, energy, waste, green space, air/noise) with subjective perceptions of satisfaction and safety to capture the multidimensional nature of welfare (Airaksinen et al., 2017; Mederly & Sovič, 2019). A complementary analysis around one of the most populous states in Germany, emphasizes how spatial metrics such as density, aggregation and land use structure explain a large share of the variability in education, mobility and living conditions indicators across municipalities, showing that urban form governs access to opportunities and the distribution of welfare (Siedentop & Fina, 2019).

These kind of approaches applied in Lisbon imply welfare-oriented planning that integrates indicator dashboards with neighbourhood scale spatial analytics to align land use, mobility and housing decisions with measurable well-being gains.

2.1.2 Social and Affordable Housing

Housing affordability is a principal channel through which European cities convert economic dynamism into social welfare. Cross country reviews identify structural drivers of (un)affordability like supply rigidities, rising land and construction costs, demographic change and finance related dynamics which, together, lift price to income ratios and expand the share of cost burdened renters (Lee et al., 2022). The literature converges on policy mixes rather than single instruments: durable affordability requires simultaneous attention to the supply margin (e.g. planning, land policy, public/non-profit production, long-term concessions) and calibrated demand side support, with designs sensitive to local elasticities (Lee et al., 2022; Koster & Ommeren, 2019).

European institutional comparisons highlight how governance choices shape outcomes: on the one hand, Vienna's large and affordable sector, anchored by municipal land policy, limited profit providers and cost based rents has protected social mix and price stability across cycles and, on the other, Berlin's thinner social sector and episodic interventions have struggled to deliver comparable resilience during demand shocks, underlining that ownership, permanence and rules governing the stock matter as much as annual subsidies (Kadi & Gromann, 2021).

Place based investments in social housing and public space can generate measurable improvements in surrounding areas specially if targeted to neighbourhoods with constrained access, thereby reinforcing welfare effects beyond unit counts (Koster & Ommeren, 2019). At the same time, the expansion of institutional capital into rental market can scale delivery only if models agreed are tied to enforceable social covenants, since, for example, in Italy there are warns around the financialization without strong eligibility, rent cap and reinvestment rules risks that drift toward higher rent products and partial exclusion of low income households (Belotti et al., 2021). Portuguese market diagnostics echo these lessons, noting investor interest in residential platforms but emphasising the need for predictable policy frameworks that involve long-term perspective, transparent indexation and measurable social outcomes to unlock supply at accessible price points (CBRE, 2022).

2.1.2.1 Portuguese Programs focused on Social Housing

Portugal's shift from grant led rehabilitation to public-private delivery has been channelled through municipal *Sociedades de Reabilitação Urbana* (SRU), created to mobilise private capital and accelerate inner city upgrading. The SRUs institutionalised public–private collaboration in Lisbon and Porto but, when affordability covenants were not embedded, market led rehabilitation coincided with displacement risks and stratification in historic cores (Branco & Alves). Lisbon's rental market, where legacy open ended contracts coexist with newer market rate leases, exhibits "extreme rent regimes" whose incentives often tilt upgrading toward higher yield segments unless contracts ring fence affordable units and strengthen tenure security (Alves et al., 2023).

International guidance on affordable housing PPPs maps directly onto this experience: projects perform best when risk allocation is explicit, rent/tenure rules are embedded in long duration contracts, municipal capacity and monitoring are credible, and social outcomes are auditable (European PPP frameworks; Alteneiji, Alkass, & Dabous). Post crisis represents a change in the policy challenge since Lisbon documents a tourism driven cycle in central areas in which short stay demand and investor upgrading pushed rents upward and thinned long-term supply, unless offset by targeted, below market provision and tenant safeguards (Lestegás, 2019).

Institutional and market assessments converge on three priorities for Lisbon: predictable concession frameworks that link remuneration to verified delivery of affordable units; hard wired rent bands with minimum affordability durations and anti-displacement protocols in

rehabilitation zones; and transparent monitoring of unit counts, rent levels and household profiles. Portuguese market outlooks in 2022 confirm, for example, the growing appetite for professionally managed rental but stress that "predictable frameworks" are necessary to crowd in capital at accessible rents (CBRE, 2022).

2.1.2.2 Foreign Programs focused on Social Housing

Across Europe, affordable housing provision has moved toward hybrid systems that combine public land, regulated rents and private or third sector capital under long-term contracts. A comparative exploration of England, Italy, Poland and the Netherlands show the emergence of an "intermediate" affordable segment (below market but above traditional social rent) intended for middle income households, while social rent remains targeted to the most vulnerable (Czischke & Bortel, 2018).

The effectiveness of these programmes depends on how finance and governance are paired. Austria's limited profit housing associations illustrate the cost rental model since the application of legally enforced cost-based rents, capped returns and access to low-cost public loans have "balanced market efficiency with social responsibility," stabilising affordability across cycles and attracting patient capital ("Innovative Arrangements between Public and Private Actors in Affordable Housing Provision," 2019). In England, housing associations and local authorities have leveraged private finance through long-term bonds and public land deals to deliver affordable rent products, yet affordability in high-cost markets remains challenging when rent setting is indexed to market levels rather than costs (Czischke & Bortel, 2018). The Netherlands' reforms sought to delineate social and mid rent roles and "attract private sector investments" into the latter, but evidence of sustained entry has been mixed where tax and land value practices still favour ownership (Czischke & Bortel, 2018; Housing Supply in the Netherlands: The Road to More Affordable Living, 2023). In Spain, the state led liberalisation and asset disposals after the financial crisis "reignited the financialization of housing," drawing in global investors and REITs (Socimis) but also accelerating rent inflation and weakening tenant protections in Madrid and other cities (García & López, 2021; "Tracing the socio spatial logics of transnational landlords" 2020).

The conclusion from these programmes that bring private finance to long-term, contractible public goals such as cost-rent formulas, eligibility rules, land/permit instruments, anti-displacement safeguards, show potential to produce consistent affordability gains and

potentially be a viable model to spread to compete with liberalise investment without robust covenants and oversight.

2.1.3 Sharing Economy and Housing Innovation

Platform intermediation has redrawn boundaries between residential and tourism markets while digital tools reshape everyday rental operations. For instance, the Portuguese market provides evidence of how short-term rentals (STRs) affect affordability as the reform on streamlining *alojamento local* registration in 2014 led to large and localised effects in Lisbon and Porto. Property values rose about 34% and rents 10.9% in areas with intense STR activity confirming that stock reallocation and amenity capitalisation raise prices and rents in destination cities (Franco et al., 2019). Analysing the transaction level between 2010 and 2017, each additional STR registration is associated with an average 0.17% increase in nearby sale values, with stronger effects for larger homes, supporting a consistent pattern involving supply shifting toward short-term demand (Nobre et al., 2023). Neighbourhood evidence from Barcelona points to the same spatial mechanics and argues that the neighbourhood should be "the primary management unit for regulation," with localised caps or exclusion zones to contain concentration (Cocola-Gant & Gago, 2019).

In parallel, the smart housing literature emphasises that digitising the rental workflow from search and screening to contracting, payments, maintenance and energy monitoring can be helpful to reduce operating costs, shorten vacancy periods, and improve tenant experience, however, all these benefits depend on governance that steers technology toward openness and equity rather than pure optimisation (Tomal, 2020). Financial innovation complements operational change, because housing is a large, illiquid exposure for households introducing undiversified background risk and, for that reason, professional, institutionally funded vehicles are better placed to deliver stable rental supply across cycles (Kullmann & Siegel, 2005).

In cities like Lisbon, the policy synthesis can follow this straightforward trend, from one side, curb excess STR intensity where it threatens residential supply, then digitalise allocation and asset management to raise through put and accountability and, finally, align finance with asset backed, long-term rental contracts to crowd in patient capital while meeting affordability goals.

2.1.4 Future Society Needs

Demographic and environmental transitions will define housing agenda in the coming decades across Europe. Ageing, smaller household sizes and sustained migration toward metropolitan areas are reshaping demand profiles, while ESG imperatives recast how assets are financed and operated. Lisbon mirrors these trends in concentrated form, between 2000 and 2020, average household size declined, and household composition diversified, implying sustained demand for smaller, adaptable units and service rich buildings that support ageing in place and varied life courses (Moreira & Farias, 2022). The long-run mis match between population structure and the existing stock requires policy to prioritise compact typologies, barrier free design and neighbourhood based "rightsizing," rather than peripheral expansion alone (Moreira & Farias, 2019). Even under rent regulation, migration adds a second pressure point since foreign born inflows are positively associated with rent increases in major cities when supply is slow to adjust, as shown for Sweden after partial liberalisation, the mechanism is demand led and operates through constrained entry points and allocation queues (Tyrcha, 2020). These findings caution that labour market integration and social commitments must be matched by timely additions to affordable rental stock in gateway neighbourhoods to avoid displacement and bottlenecks.

ESG and energy efficiency connect social needs to affordability at the operating level as institutional investors increasingly perceive environmental performance, governance quality and risk management as determinants of long-term value, competitiveness and tenant satisfaction in real estate (Liu, 2021). Building level evidence further shows that green certification and high-quality facility management lower energy and maintenance costs while raising renewal likelihood, an alignment that stabilises total occupancy costs, especially for fixed income or vulnerable households (Liu, 2024). Portuguese municipalities and asset owners, embedding deep retrofits, demand side management and smart operations capability into rehabilitation programmes is therefore both a climate imperative and an affordability strategy. In sum, future proof rental systems for Lisbon and European peers should integrate demographic adaptation (ageing ready, small-household typologies), migration sensitive pipeline management in well-connected locations, and ESG aligned operations that dampen lifetime housing costs, preserving welfare and productivity as metropolitan economies evolve.

3. Methodology

This chapter outlines the methodological framework adopted to prepare the financial analysis for the Benfica Urban Development Project under *Programa Renda Acessível*. It provides a theoretical explanation of how the financial model was structured and the rationale connecting its components, from the definition of assumptions, key parameters and financial indicators that integrated result into the analytical base of the evaluation: the cash-flow model. Finally, the chapter presents the approach used for risk analysis, which measures the sensitivity to critical financial and operational variables, and scenario analysis, which tests its performance under alternative macroeconomic and/or market conditions. Together, these methodological elements create a coherent and transparent foundation for the financial results discussed in the subsequent chapter.

3.1 Cash-flow Model

The financial model developed for the Benfica Urban Development Project applies a discounted cash-flow (DCF) approach to evaluate its financial outlook from a private investor's perspective. The DCF method, widely recognized in the field of real estate and infrastructure finance, allows the assessment of long-term investments by incorporating both the time value of money and the risk return profile of the project (Geltner et al., 2014).

3.1.1 Assumptions

The assumptions define the contextual boundaries and logical coherence of the model. They are split into three groups, namely, macroeconomic, financial, and project specific but, all together, guarantee that projections remain consistent with both the PRA regulatory framework and standard financial valuation practices.

3.1.1.1 Macroeconomic Assumptions

The macroeconomic assumptions reflect the wider Eurozone environment in which the project operates. Inflation is a key variable, influencing both revenue and cost projections. The model adopts the European Central Bank's (ECB) medium-term target of 2%, which defines price stability and serves as a benchmark for long-term financial planning within the Eurozone (European Central Bank, 2024).

In Portugal, the annual rent update coefficient is set by the Government through a Decree-Law published in the *Diário da República*, establishing the maximum annual rent increase. The coefficient, indexed to the average inflation observed in the preceding months, limits rental growth across both new and existing contracts (*Diário da República*, Aviso n.º 15425/2024, 2024). However, for simplification purposes and considering the long maturity of the concession, the model assumes that annual rent growth follows the same pace as inflation, fixed at the ECB's target.

3.1.1.2 Project-specific Assumptions

The project framework and composition reflect some specific assumptions that derive from the PRA rules and characteristics of the Benfica urban development itself. The project primarily consists of affordable housing, complemented by commercial spaces, services, and parking areas. The distribution of typologies (T0–T4) reflects the local demographic structure and the affordable housing demand identified by the Lisbon Municipality (CML, *Caderno Técnico*, 2020).

The affordable units represent most of the housing stock, while a smaller share of market rate units contributes to financial balance and long-term sustainability. Although the study is based on a baseline configuration, the model remains flexible, allowing adjustments to the affordable/market rate ratio to evaluate how this variable affects both the typological mix and rental income distribution across segments.

3.1.2 Rents and Revenue Projections

This section outlines the revenue forecast, determined by the evolution of rents and the occupancy rate over the operational phase. The model aligns these projections with the PRA's regulatory framework, ensuring that revenue growth reflects both affordable housing constraints and market dynamics.

3.1.2.1 Housing

The rents for residential units were determined according to the standard pricing formula in which the monthly rent corresponds to the product of the usable area of the residential unit and the price per square meter defined for the Benfica market. This relationship is expressed as:

$$Rent^{market} = Area \times P_{m^2} \quad (1)$$

where P_{m^2} represents the base market rent per square meter applicable to each typology.

However, since the PRA aims to promote access to housing at below market prices, the affordable rent is calculated by applying a discount factor, often referred to as a "haircut", to the equivalent market rent. The affordable rent for each unit is therefore obtained as:

$$Rent^{affordable} = Rent^{market} \times (1 - \delta) \quad (2)$$

where δ represents the proportional discount reflecting the gap between market and affordable levels.

3.1.2.2 Commercial/services and Parking

The commercial areas, service units, and parking spaces were modelled separately as complementary revenue sources to the residential component. The rents to each one of these segments follow a market-based approach, determined by the usable area and the market price per square meter, like the calculation used for residential units (these classes are not subject to rent caps) at market value:

$$Rent^{market} = Area \times P_{m^2}^{seg} \quad (3)$$

where $P_{m^2}^{seg}$ denotes the market price per square meter for each segment (commercial/services and parking).

Although representing a smaller share of income, these segments help stabilise cash-flows and support the financial balance of the project.

3.1.2.3 Growth and Occupancy

The model assumes that rent growth mirrors inflation, ensuring constant real income throughout the concession period, which means nominal rents evolve at a fixed annual rate equivalent to the assumed inflation target. The formula is set as:

$$Rent_t = Rent_0(1 + \pi)^t \quad (4)$$

Occupancy is represented by an occupancy factor (o_t), which expresses the proportion of leased area relative to total available space. The relationship is defined as:

$$EGI_t = Rent_t \times o_t \quad (5)$$

where EGI_t is the Effective Gross Income and o_t the average occupancy rate. It is important to state this factor remains continuous and transversal, meaning it is constant across all quarters and uniformly applied to every segment. Although the study adopts a single baseline

assumption, the model is flexible, allowing testing the alternative occupancy levels to evaluate how changes in this variable influence rental income and overall financial performance.

3.1.3 Parameters Specification

This stage of the model defines the core parameters that support the financial analysis. It includes the estimation of capital expenditures (CAPEX), operating expenses (OPEX), terminal value (TV), and cost of equity, ensuring internal consistency between assumptions and valuation results.

3.1.3.1 Capital Expenditures

Since encompass demolition and earthworks (e.g., excavation and backfilling), structure and architecture (e.g., foundations), special installations (e.g., elevators and electrical and telecommunication systems), furniture and household equipment (e.g., kitchens and bathrooms), public spaces (e.g., stormwater infrastructure and lighting), and other general expenses (e.g., site establishment and insurance), CAPEX include all costs associated with the project's development phase.

The cost maps for the residential and commercial/services segments follow a similar structure, whereas parking areas present a distinct profile due to their different technical complexity and cost intensity. All cost maps were developed in collaboration with top tier contractors, using benchmarks from comparable projects completed in recent years to ensure realism and alignment with current market standards.

3.1.3.2 Operating Expenses

The operating expenses represent the recurring costs necessary to maintain the asset and ensure its efficient operation throughout the concession. For Urban Development at Benfica, these costs are divided into two main categories: the maintenance fee and the asset management fee.

The maintenance fee covers preventive and corrective maintenance, such as security and cleaning of common areas, building insurance, and minor replacements. It is explicitly parameterised in the model and (indirectly) indexed to inflation as this results as a percentage of the operating income.

The asset management fee relates several tasks, since administrative and financial management (including reporting), passing through facilities management and commercial

activities and, finally, compliance. It is also indexed to inflation as this is measured as a percentage of the equity invested with fixed annually cap and floor figures per year.

3.1.3.3 Depreciations

Depreciation captures the gradual reduction in the economic value of the project's-built assets over the concession period. Despite of land is excluded from depreciation, as it retains its intrinsic value, construction works are depreciated over 50 years, starting upon completion of the building phase, reflecting their structural durability. Also, rehabilitation works, undertaken periodically during the concession, are depreciated over 10 years to account for their shorter useful life. This method ensures that the model accurately reflects the timing and impact of capital consumption associated with both construction and renovation phases.

3.1.3.4 Working Capital

The working capital represents the short-term resources required to support the project's day-to-day operations and ensure sufficient liquidity throughout the concession. In the context of the Benfica project, it serves to balance the timing difference between cash inflows from rents and cash outflows related to operational expenses and maintenance, ensuring financial stability during each operating cycle.

A positive working capital ensures that the project can meet its immediate obligations without disrupting operations, contributing to a stable financial performance across the concession period.

3.1.3.5 Terminal Value

In the context of the Benfica Project, the Terminal Value does not stem from a market sale or the discounting of the final operational cash-flows. Instead, it is defined as a percentage of the total invested capital, representing the combined value of land acquisition, initial construction, and all refurbishments carried out during the concession period. This approach reflects the compensation granted for the non-renewal of the concession with the incumbent investor once the asset reverts to CML. Accordingly, the terminal value is expressed as:

$$V = \alpha \times \text{Invested Capital} \tag{6}$$

where α denotes the applied percentage parameter. This formulation ensures that the valuation remains consistent with the PRA's contractual framework, focusing on operational and investment performance rather than speculative resale assumptions.

3.1.3.6 Cost of Equity

The Cost of Equity represents the minimum return required by equity investors, reflecting the project's risk profile. In this model, it is considered the Capital Asset Pricing Model (CAPM), which captures both market and asset specific risk components. The formula applied is:

$$r_e = r_f + \beta \times (r_m - r_f) \quad (7)$$

where r_e is the cost of equity, r_f is the risk-free rate, β represents the systematic risk of real estate assets in Europe, and $(r_m - r_f)$ denotes the equity risk premium for Portugal.

The risk-free rate was set according to the yield of the 10-year German Bund, the standard benchmark for long-term Eurozone sovereign risk (Deutsche Bundesbank, 2024). The beta coefficient corresponds to the average European real estate sector beta estimated by Damodaran (2024), representing the moderate sensitivity of property investments to market fluctuations. The equity risk premium adopted corresponds to the Portuguese market, also based on Damodaran's data, capturing the additional return required by investors to compensate for country specific and macroeconomic risk.

3.1.4 Cash-Flow Map

The cash-flow map integrates all assumptions, parameters, and calculations into a coherent analytical structure. It follows a logical progression from operating performance to financial evaluation, ensuring internal consistency and clarity in the flow of information.

3.1.4.1 Model Structure

The financial model aggregates all project cash-flows in a logical sequence that mirrors the real economic cycle of the Benfica development. It begins with the estimation of operating income, derived from the rents generated by all asset classes (residential, commercial, services, and parking) net of occupancy. The formula applied is:

$$OI_t = \sum_{i=1}^{n} Rent_{i,t} \times o_t \quad (8)$$

From this revenue base, operating expenditures are deducted, consisting primarily of maintenance and asset management costs, both indirectly indexed to inflation to preserve their real value.

$$PEX_t = Maintenance_t + AssetMgt_t \quad (9)$$

The resulting Net Operating Income (NOI) expresses the project's capacity to generate recurring income from operations:

$$NOI_t = OI_t - OPEX_t \quad (10)$$

After accounting for depreciation, the model determines the Earnings Before Interest and Taxes (EBIT), which measures operational profitability prior to financing and tax effects:

$$EBIT_t = NOI_t - Dep_t \quad (11)$$

Subsequently, the Net Operating Profit After Taxes (NOPAT) captures the post-tax profitability of operations before financing flows:

$$NOPAT_t = EBIT_t \times (1 - Tax_{rate}) \quad (12)$$

At this stage, these operational results form the foundation for the cash-flow analysis. Firstly, the Free Cash Flow to the Firm (FCFF), or unlevered cash flow, represents the cash available to all capital providers before debt servicing:

$$CFF_t = NOPAT_t + Dep_t - \Delta WC_t - CAPEX_t \quad (13)$$

And secondly, after incorporating financing flows (interest payments, debt drawdowns, and amortisation) it derives to the Free Cash Flow to Equity (FCFE), or levered cash-flow, which represents the residual value accruing to shareholders:

$$FCFE_t = FCFF_t - Interest_t + Debt_t - Amortization_t \quad (14)$$

This structured approach ensures that each financial outcome comes out from the project's operational drivers and financing assumptions, providing a transparent foundation for valuation metrics such as Net Present Value (NPV) and Internal Rate of Return (IRR).

3.1.4.2 Development Phases

The financial model reflects the chronological sequence of the Benfica Project, divided into four main phases with distinct financial dynamics, as explained below:

1) Purchase phase: this first steps evolve land acquisition and associated costs, like real estate transfer taxes (RETT) and other transaction expenses by the private investor.
2) Construction phase: this phase includes all capital expenditures related to land preparation, structural works, and installations. It also captures any financing inflows (if needed) support construction activities. No rental income is generated during this period, therefore is characterised by negative cash-flows.

3) Operational Phase: this stage marks the beginning of generating cash-flows from rental income across all segments. These inflows are offset by operating expenses, maintenance, management fees, and taxation. Periodic refurbishments are also considered to maintain the asset's quality.
4) Reversion Phase: at the end of the concession period, the property reverts to the *Câmara Municipal de Lisboa*. Instead of a market sale, a TV is applied and calculated as a percentage of total invested capital to compensate for the concession's non-renewal.

3.1.4.3 Profitability Indicators

The profitability is assessed through classical discounted cash-flow metrics: the Net Present Value, Internal Rate of Return, and Payback Period. These indicators evaluate value creation and return potential relative to the investor's required rate of return.

The NPV measures the difference between the present value of future cash-flows and the initial investment:

$$NPV = \sum_{t=1}^{T} \frac{CF_t}{(1 + r_e)^t} - I_0 \tag{15}$$

where CF_t represents annual free cash-flows and I_0 the initial investment. A positive NPV indicates that the project generates value above the investor's benchmark return.

The IRR is the discount rate that makes the NPV equal to zero, reflecting the project's percentage yield:

$$\sum_{t=1}^{T} \frac{CF_t}{(1 + IRR)^t} = I_0 \tag{16}$$

The Payback Period measures the time required for cumulative free cash-flows to recover the initial investment:

$$\text{Payback} = \min \{t: \sum_{k=1}^{t} CF_k \geq I_0\} \tag{17}$$

Together, these indicators summarise the project's profitability, efficiency, and liquidity.

3.2 Risk Analysis

The risk analysis evaluates the uncertainty inherent in the assumptions and tests how variations in key parameters affect financial results. This analysis combines two complementary

approaches: break-even analysis, which identifies the thresholds at which the project remains (or starts being) financially viable, and sensitivity analysis, which measures how incremental changes in assumptions impact performance indicators such as NPV.

3.2.1 Break-even Analysis

The break-even analysis identifies the point or conditions under which the discounted inflows equal its total costs, resulting in a Net Present Value equals to zero. It measures how sensitive financial performance is to changes in key variables, defining the thresholds at which the project becomes viable. Formally, this condition is expressed as:

$$NPV = \sum_{t=1}^{T} \frac{CF_t(X)}{(1 + r_e)^t} - I_0 = 0 \tag{18}$$

where X represents the variable under analysis (rents, construction costs, or occupancy). Solving for X determines the critical value needed for the project to reach equilibrium.

In practical terms, the break-even approach can use revenue and cost multipliers, allowing investors to assess how much each variable must adjust for the project to achieve feasibility. Overall, this analysis offers a clear support for decision makers as it highlights the capacity to absorb variations in key parameters.

3.2.2 Sensitivity Analysis

The sensitivity analysis assesses how variations in key input variables affect the financial outcomes, particularly the NPV. It provides a quantitative measure of how responsive a valuation is to changes in underlying assumptions, identifying which parameters have the greatest influence. The general expression of sensitivity can be written as:

$$S_{NPV,X} = \frac{(\Delta NPV/NPV)}{(\Delta X/X)} \tag{19}$$

where $S_{NPV,X}$ represents the sensitivity of NPV to a change in variable X. A higher sensitivity value indicates that small variations in X generate proportionally larger changes in NPV, signalling greater financial exposure.

In practice, sensitivity analysis can be performed either univariately, by changing one variable at a time, or bivariately, by testing two variables simultaneously to observe their combined impact. This analysis works as another tool for investors to understand the risk

exposure and tolerance thresholds linked to the project, by other words, it plays an important role to turn the financial evaluation more robust and transparent.

3.3 Scenario Analysis

From a theoretical perspective, scenario analysis is designed to illustrate a project's potential outcomes under distinct but coherent environments, such as optimistic, baseline, and adverse scenarios, for example. Each represents a plausible configuration of market and operational variables, allowing the assessment of both upside potential and downside exposure. This provides a structured understanding of how changes in rents, costs, or discount rates can alter project feasibility and guide strategic decision making.

In the context of the Benfica Project, this methodology was used conceptually to evaluate how different rent configurations could influence financial results under the PRA framework. The analysis does not aim to predict exact figures but rather to assess how variations in key assumptions might shape the investor's strategic positioning and financial expectations within a concession-based housing model.

Overall, scenario analysis serves as a bridge between deterministic modelling and strategic planning, providing investors alternative configurations for assumptions that can influence the risk/return balance and long-term sustainability.

4. Market Analysis

A market-oriented approach requires an extensive understanding of the market and main variables that influences both supply and demand. It must be developed in alignment with reliable market data and analytical insights which enable properly informed investment decisions. For this purpose, this chapter relies on the study "The real estate market in Portugal" executed by *Fundação Francisco Manuel dos Santos* but, primarily on the commissioned market research for the CML named *Programa de concessão de habitação a preços acessíveis* prepared by Savills' Europe Operational Capital Market department. Together, these sources provide a robust foundation for assessing the external conditions shaping the Benfica Urban Development Project under the PRA.

4.1 Housing market in Lisbon

The residential market in Lisbon reveals a persistent structural imbalance due to limited housing production, demographic concentration and, also, steady investor appetite that have sustained price and rent escalation, particularly in certain areas of the Portuguese capital. According to Savills (2021), housing completions in Lisbon averaged fewer than 1,500 units per year during the 2010s which has been insufficient to meet growing demand, especially from middle income households.

These dynamics were amplified by tourism, foreign investment, and limited land availability in the city centre and as reported by FFMS (2021), more than 50% of Lisbon's tenant households allocate over one third of their income to rent, highlighting affordability as the core structural challenge.

From an investor's perspective, this tension between constrained supply and steady demand provides a clear rationale for institutional participation in the rental market and, particularly, into the affordable segment.

4.1.1 Locations of *Programa Renda Acessível*

The *Programa Renda Acessível* coordinated by CML, identified six priority development locations: Ajuda, Benfica, Parque das Nações/Marvila, Paço da Rainha (Arroios), Vale de Santo António (São Vicente) and Olaias (Penha de França) (Appendix A-F).

Savills (2021) studied each site based on land characteristics, accessibility, and demand potential. Although each area presents distinct urban profiles, three common advantages were identified:

1) Municipal land control, allowing stable concession terms.
2) Integration with generally consolidated urban infrastructure, ensuring social cohesion.
3) High potential demand from middle income households excluded from market rate housing.

Due to the focus of this business plan, the remaining analysis centers on the Benfica project and aspects such as the operational scale that, in theory, might result in an advantageous equilibrium between financial feasibility and social accessibility which are key factors for the success of concession-based investment model.

4.1.2 Benfica Project

The Benfica urban development project is one of the most significant operations within the *Programa Renda Acessível.* It occupies a municipal plot of approximately 62,000 m², strategically positioned in western Lisbon, adjacent to established residential and commercial areas. The site benefits from excellent connectivity, including access to Benfica railway station, Colégio Militar and Luz metro stations, and major arterial roads such as the Segunda Circular, IC19, and CRIL (Appendix G).

The project foresees 688 residential units, of which the majority goes to affordable rents and a smaller part to market rate rents, complemented by local commerce, services, and public spaces. Its configuration enables economies of scale and social diversity, aligning with the PRA's objectives of financial balance and community integration.

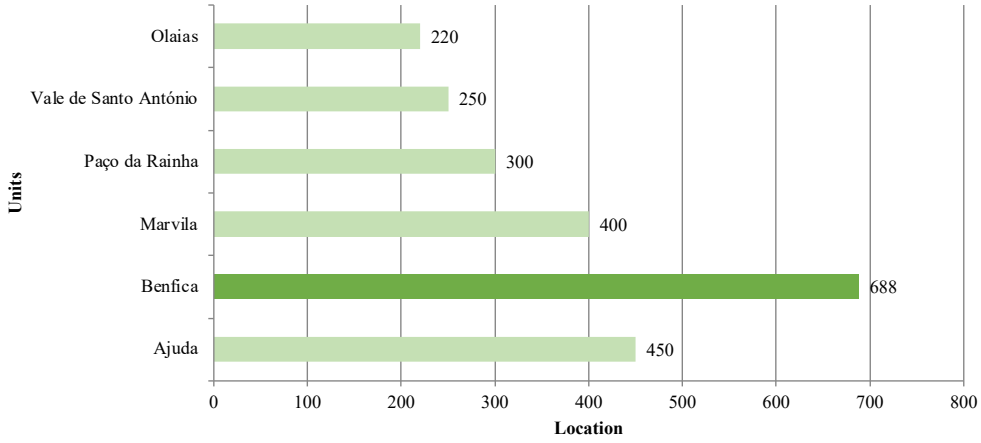


Figure 4.1 – Residential dimension in each PRA location. Source: Lisbon City Council (CML, 2020); Savills (2021)

Among all locations, Benfica stands out from its well-developed infrastructure and active commercial network but, essentially, due to the combination of scale, transport accessibility and balanced socio-economic context.

4.1.2.1 Demographic and Socio-economic Profile

According to Savills (2021), Benfica exhibits one of the most stable demographic structures in Lisbon as it is described as a mature residential zone, with a population density of about 9 600 inhabitants per km² and average household size of 2,3 persons, slightly below the city average. Most residents work in services and commerce, and the income profile fits the PRA's target range between 1 500€ and 3 000€ per household per month also below the city average.

This profile ensures a consistent, solvent tenant base and underpins the economic rationale for the project's rent levels. The demographic stability also reduces turnover risk, improving predictability for long-term investors.

4.1.2.2 Residential Sales Market Dynamics

Lisbon's sales market remains active, supported by both domestic and foreign demand. As stated in Savills market research, there are estimations that show the average sale prices increased by roughly 40%, from 2 560€/m² to 3 600€/m in Lisbon. However, in accordance with the commissioned market research prepared by Savills, Benfica's values averaged 2 900€/m², offering a more affordable urban locations with sustained liquidity but still mismatch with middle income residents' purchasing power and financial capacity. When compared to other PRA locations, Ajuda is the only where houses were sold 1,7% cheaper and, in other areas, the residential units were transacted at much higher prices, like Parque das Nações, with an average sale price of 4 800€/m², more 65% than Benfica.

*Table 4.1 – Residential Sale Prices in 2020. S*ource Savills (2021); INE (2020)

Location	Avg Sale Price (€/m²)
Parque das Nações	4 800.00 €
Benfica	2 900.00 €
Ajuda	2 850.00 €

Benfica's price-to-income ratio remains within sustainable bounds for the PRA target population, unlike central areas where market rates far exceed affordability. This balance makes Benfica attractive to both end users and institutional investors seeking low volatility exposure to Lisbon's residential market.

4.1.2.3 Residential Rental Market Dynamics

Likewise, the rental market continues to show significant structural pressure. Savills (2021) estimates an average rent increase of 30% between 2016 and 2020, reaching 13,6€/m² per month in Lisbon. In Benfica, rents averaged 11,6€/m² and, when compared to other PRA locations, only in Ajuda area the rentals were 1,7% cheaper as, the others, such as Paço da Rainha e Vale de Santo António the average monthly rents were 14,2€/m² and 17,5€/m² which means these locations were than 22% and 51% above Benfica context.

Table 4.2 – Average Rental Prices in 2020. Source: Savills (2021)

Location	Avg Rent (€/m²/month)
Vale de Santo António	17.5
Paço da Rainha	14.2
Benfica	11.6
Ajuda	11.4

Overall, Lisbon also needs an attractive long-term environment for concession based affordable housing and Benfica could be a good starting point due to moderate rent levels with high occupancy and low turnover, offering stable yields and low vacancy risk. This equilibrium between affordability and demand sustainability strengthens the financial attractiveness of the project's concession model.

5. Internal Analysis

This chapter examines Marcellus Capital positioning in the market and how its internal capabilities support the implementation of the Benfica urban development project under the *Programa Renda Acessível.* It explores fund's structure, governance, and investment philosophy alongside with the project's scale, risk profile, and long-term objectives.

5.1 Investment Nature and Strategic Positioning

Marcellus Capital establishes as a core real estate investment fund with a long-term focus based on a philosophy that looks at private investment as useful contribution to solve public challenges when managed with discipline and accountability. Its strategy prioritises low risk, asset backed assets and gives priority to projects able to generate wide periods of income, allowing investors to balance financial performance with tangible community impact.

This orientation aligns closely with the PRA launched by the *Câmara Municipal de Lisboa* since the program offers a concession model through which private investors finance, construct, and manage housing developments on municipal land leased for up to 90 years. Under this model, the municipality sets rent limits and eligibility rules, ensuring affordability for tenants while providing stable returns for investors. For Marcellus Capital, this structure represents a controlled exposure to market volatility environment that perfectly its strategy.

Internally, the fund follows a disciplined governance model combining financial rigour and pragmatic decision making. Every potential investment is subject to a detailed analysis that integrates discounted cash-flow modelling, scenario testing, and operational due diligence. Decision making is guided by three principles:

1) Preserving capital, by investing in tangible, asset backed structures.
2) Generating predictable, stable and inflation protected income, through regulated rental contracts.
3) Creating social and environmental value, in line with national housing and ESG priorities.

In terms of internal organisation, strategic and financial functions are centralised within the fund, while technical activities (e.g. asset management and maintenance issues) are outsourced to specialised partners. This hybrid structure keeps the fund agile, ensuring both operational efficiency and institutional oversight.

Unlike more speculative investors, Marcellus Capital seeks to combine financial prudence with long-term social relevance. Its founders' experience in international asset management has shaped a culture of transparency and risk control. In this context, the Benfica Project became the natural choice for the fund's inaugural investment, illustrating its goal of aligning private capital with public policy in a sustainable way.

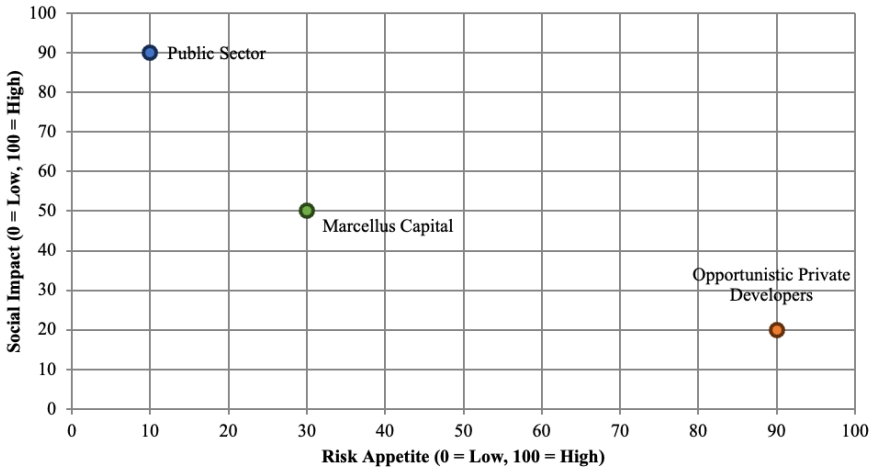


Figure 5.1 – Marcellus Capital's Investment Positioning. Source: Author, based on Lisbon City Council (CML, 2020) and Savills (2021)

5.2 Project Scale, Structure and Typology

The Benfica Urban Development Project is the first large scale investment undertaken by Marcellus Capital within the PRA framework and represents the practical application of its investment philosophy and it is situated on a municipal area of about 62 000 square metres. The development combines housing, retail, and green areas in a way that balances financial feasibility with social purpose.

According to the Savills (2021), Benfica offers one of the most balanced profiles due to its competitive land values, strong accessibility, and a stable local population. The project foresees more than 600 housing units, of which around two thirds are allocated to affordable rent and the remaining to market rate housing. This mix allows the project to remain financially viable while fulfilling the social objectives defined by the municipality.

The project operates under a 90-year concession contract, where the land remains publicly owned and the investor assumes responsibility for financing, construction, and management.

The design of the development reflects the demographic and housing profile of Benfica, where smaller households are predominant and the focus for choosing a typology mix that maximizes the possibility of having high occupancy and long tenancy periods. That said, summing up the units available at market rate rents and at affordable rents, the typology prioritises studio apartments, one bedroom and two-bedroom apartments (T0, T1 and T2) complemented by a lower number of three-bedroom units (T3) and an even lower portion to four-bedroom units (T4). Shared green areas, retail units, and local services promote integration with the surrounding neighbourhood (Appendix H).

5.3 Strategic Fit and Internal Advantages

The Benfica Project integrates naturally into Marcellus Capital's investment strategy and internal capabilities. Its structure mirrors the fund's approach to stability, prudence, and measurable impact.

The fund's governance system allows it to manage complex developments efficiently, through a compact management team ensures close coordination and rapid decision making, while partnerships with external operators provide the technical expertise required for execution. This balance between internal oversight and external support gives the fund the flexibility to manage large scale, long-duration projects without losing financial control.

The background and experience of the fund's leadership team further reinforce its ability to deliver such projects and, their exposure to international asset management practices, has instilled a culture of risk awareness, analytical rigor, and long-term thinking. These qualities are essential in navigating the administrative and regulatory framework of the PRA which requires transparency, consistent performance, and active collaboration with public institutions.

Another important strength is the alignment of objectives between Marcellus Capital and the CML as both parties share an interest in developing stable, affordable housing solutions that strengthen urban inclusion. While the perspectives may differ, they converge on long-term

sustainability, reducing the potential for conflict and encouraging cooperative management throughout the concession period.

By leading the Benfica Project, Marcellus Capital consolidates its reputation as a responsible investor capable of combining profitability with purpose. Delivering a project of this scale marks a position in the Portuguese market that works as a proof of work especially relevant for future public or private collaborations in the housing sector.

6. Competition Analysis

The affordable housing sector in Lisbon has been becoming an increasingly "hot topic", especially launching the *Programa de Renda Acessível*. According to Savills (2021), competition in this market comes mainly from three types of players with different motivations and strategies:

- Insurance companies and pension funds: This group is focus on stable, low risk assets. These institutions often seek predictable returns and prefer large projects with secure concession contracts. Although their financial capacity is high, their decision-making process is slower and usually depends on long-term guarantees.
- Family offices: A group of private entities that invest their own capital in projects combining moderate returns and social impact. Their participation is more selective and depends on personal interest or reputation, rather than strict financial performance.
- Asset and investment managers: This is where Marcellus Capital belongs and, essentially, these players represent the most dynamic part of this market. These funds are more flexible and innovative, often acting as intermediaries between private investors and public authorities. They can structure and manage complex projects, balancing profitability with social responsibility.

In this competitive context, Marcellus Capital stands out for its balanced and transparent approach since the fund combines financial discipline with a strong focus on social value creation, aligning its objectives with the principles of the PRA. This first investment illustrates funds' positioning as it is based on a large-scale development that integrates affordable housing, solid governance, and a sustainable financial model.

7. Plan Goals

The main goal of this business plan is to assess the financial viability of the Benfica Project, assuming Marcellus Capital as the promotor for this urban development. This plan also aims to ensure that the project's structure and expected performance align with the investment principles of Marcellus Capital and meets the economic and financial conditions necessary to support a binding investment proposal to the *Câmara Municipal de Lisboa.*

Ideally, the business model seeks to prove that affordable housing can be both socially valuable and financially sustainable, combining stable returns for investors with the creation of housing opportunities at lower rents for Lisbon's residents. Finally, it aims to strengthen confidence among institutional investors and partners by demonstrating the viability of private participation in long-term urban development projects.

According to Drucker (1955), objectives should be SMART, by other words, Specific, Measurable, Achievable, Results-oriented, and Time-bound. In this sense, the following specific objectives were defined:

1. Internal Rate of Return greater than the expected inflation rate plus the real estate risk premium, by other words, greater than Cost of Equity.
2. Achieve a Payback Period shorter than the 90-year concession period.
3. Secure 100% of the required capital for the Benfica development.
4. Remunerate investors' capital.
5. Ensure disciplined capital management and predictable cash-flows.
6. Ensure compliance with PRA Framework.

By achieving these goals, the concession model leaves reinforced as it shows that responsibility and social commitment coexist, setting the foundation for future partnerships beyond the *Programa Renda Acessível*.

8. Development Strategy

This chapter reflects the development strategy for Benfica Urban Development Project, promoted by Marcellus Capital that seeks to guarantee long-term financial sustainability, operational efficiency, and social impact.

8.1 Investment Cycle and Exit Strategy

The project follows a structured investment cycle that is consistent with institutional real estate models as described by Geltner et al. (2014):

raise → invest → manage → divest → distribute

In the first stage, Marcellus Capital raises private institutional capital to finance the project entirely through equity. This is followed by the investment and construction phase, after which the fund manages the asset to ensure both financial performance and social value creation. Finally, capital is recovered and distributed to investors in line with expected return targets.

Given the project's scale and duration, the strategy also considers a long-term exit mechanism. Within eight to twelve years, Marcellus Capital may pursue an Initial Public Offering (IPO), converting from a *Sociedade de Investimento Coletivo* to a *Sociedade de Investimento e Gestão Imobiliária* (SIGI), the Portuguese equivalent of a Real Estate Investment Trust. This evolution would increase liquidity and broaden access to the capital market, allowing early investors to exit while attracting new retail investors (Niskanen & Falkenbach, 2010; NAREIT, 2021). This kind of strategy aligns with global practices in real estate finance, where REIT structures enhance transparency, scalability, and investor confidence (Ling & Archer, 2022).

8.2 Financial Strategy and Funding Model

The financing relies exclusively on private equity, primarily from insurance companies and pension funds, which typically seek long-term, low risk, and inflation protected returns (Geltner et al., 2014). This choice strengthens the proposal's position in two perspectives: firstly, in regards the *Câmara Municipal de Lisboa* evaluation process since the proposals financed without debt are viewed more favourably and, secondly, reduces the exposure to interest rate and credit risk.

If Marcellus Capital transitions into a SIGI/REIT, it could access additional liquidity while maintaining a conservative, transparent governance structure (NAREIT, 2021). This hybrid model aligns with best international practices for responsible and sustainable real estate investment.

8.3 Operations, Sustainability and Social Impact

The project operates through an integrated framework that includes property maintenance, rent collection, tenant support, and facilities management (cleaning, equipment, and common areas) and other specific responsibilities.

Environmental sustainability is a key element of this strategy since this urban development aims to achieve LEED or BREEAM certification, in line with international sustainability standards (World Green Building Council, 2020). These certifications reduce operational costs and enhance long-term asset performance.

From a social perspective, the project directly supports the *Programa Renda Acessível* and the goals of the CML by providing accessible, high-quality housing and promoting social inclusion. It also aligns with the principles of the United Nations' New Urban Agenda (2016), which encourages private investment in urban regeneration projects that deliver measurable community benefits.

8.4 Timeline, Monitoring and Key Risks

The project will follow these main phases:

- Investment and construction (Years 1 - 4): licensing, financing, and completion of works.
- Stabilisation and operation (Years 5 - 10): optimisation of asset performance.
- Long-term management (Years 11 - 90): sustained operations and return distribution.

A robust monitoring framework will oversee technical, financial, and sustainability performance at each stage, ensuring compliance with contractual and environmental standards (OECD, 2020).

During construction, audits will monitor budget and quality control, while operational management will focus on maintenance efficiency and tenant satisfaction. The main risks include:

- Financial risk: limited investor participation or difficulty securing sufficient capital.
- Market risk: lower occupancy or rental demand.
- Operational risk: construction delays or inefficiencies.
- Regulatory risk: policy changes affecting the PRA framework.
- Environmental risk: unforeseen restrictions on land use or environmental compliance.

9. Implementation Policies

This chapter aims to translate the strategic vision into practical measures or actions for implementation. These policies ensure that the development, marketing, organisation, and financing for Benfica project are aligned with the PRA's principles.

9.1 Infrastructure Development Policy

The project follows the guidelines set out in the *Caderno Técnico do Programa Renda Acessível* presented by *Grupo de Trabalho do Programa Renda Acessível* (GTPRA) which emphasises quality, efficiency, and inclusion in housing design.

The main goal is to build an integrated and sustainable neighbourhood combines housing, commerce, and community spaces to serve young professionals and middle-income families. Buildings are made with materials and new technologies to reduce operational costs and improve sustainability, energy efficient (e.g. water saving solutions) and designed for comfort and accessibility. Ultimately, each residential unit aims to prioritise the natural light, efficient use of space, and acoustic and thermal comfort and the green and leisure zones intend to encourage social interaction reinforce the neighbourhood's self-sufficiency.

9.2 Marketing and Technology Policy

The marketing strategy follows a digital first approach, targeting young and middle-income households seeking affordable homes in Lisbon. Based on Kotler and Keller's (2016) STP model, the communication will focus on accessibility, transparency, and modernity.

A digital marketing agency will manage online campaigns, including social media promotion and real estate platforms, while providing interactive tools to simplify the rental process, such as virtual tours. To complement this, specialised brokers in Benfica area will manage the commercial and sales process (one for the residential units and another for commercial spaces) to ensure expertise and local market reach.

Technology will also support asset management through a centralised digital platform, where tenants can apply schedule visits and sign contracts online to promote convenience, traceability, and transparency (PwC & Urban Land Institute, 2024).

9.3 Organisational Policy

Marcellus Capital operates externally managed investment company where strategic and operational responsibilities are clearly separated. The board of directors oversees investment policy and compliance, while a management entity handles day-to-day operations such as construction monitoring and maintenance.

This model, supported by good governance principles (Mallin, 2019), ensures independence, efficiency, and accountability. Regular coordination meetings and transparent reporting maintain alignment between the fund's strategy and execution. The approach follows the stewardship theory of management (Davis, Schoorman, & Donaldson, 1997), emphasising trust and shared responsibility between managers and investors.

9.4 Financial Policy

The financial policy includes strict cost control and transparent reporting, with quarterly monitoring and internal audits. Investor remuneration will follow the fund's long-term objectives, ensuring returns that balance financial prudence and social purpose.

10. Requirements for Implementation

This chapter intends to enumerate the institutional, legal, and financial requirements for implementation. These conditions ensure alignment from the *Câmara Municipal de Lisboa* and Marcellus Capital in several matters, such as project execution, compliance and expectations management.

Proposal Submission

- Confirm the financial projections and internal viability criteria are achieved. Once validated, a formal proposal must be submitted to the CML presenting a plan consistent with the program's goals (Marcellus Capital may pursue a broader institutional approach, combining a strong proposal with initiatives that strengthen its reputation if a total agreement with *Câmara Municipal de Lisboa* targets don't look feasible).

Concession Contract Process

- Establish a qualified negotiation team, including legal, financial, and technical experts by Marcellus Capital, after preliminary approval.

- Finalise the concession agreement, ensuring that the contract safeguards the objectives from both sides.
- Document all contractual terms to assure transparency.

Capital Raising

- Complete the capitalisation plan that includes the total investment, funding schedule, and investor structure.
- Raise capital from institutional investors.
- Guarantee 100% of the required capital.

In summary, the Benfica project will only move to the implementation stage once three conditions are met: the proposal is accepted by *Câmara Municipal de Lisboa*, the concession contract is signed and the capital is fully secured. Together, these steps mark the requirements for Marcellus Capital to begin the initial phase of its first investment under *Programa Renda Acessível*.

11. Financial Analysis and Evaluation

The financial evaluation of the Benfica project under *Programa Renda Acessível* seeks to assess the real financial feasibility and return potential and whether the project can meet the financial expectations from the promoter Marcellus Capital.

It is important to state that this chapter integrates the methodological framework defined in Chapter 3 supported by data from the market reasearch named *Programa de concessão de habitação a preços acessíveis* prepared by Savills and other regulatory information specific of the concession model structure. It was produced on a quarterly basis but taking into account the 90-year concession contract, all values will be presented (below and in the appendix section) and examined on an annual basis, since this makes the explanation and interpretation of the results simpler. For reference the analysis date is 31 March 2021.

The analysis follows a structured process that starts with establishing a baseline scenario consistent with the parameters defined by *Câmara Municipal de Lisboa*, then introducing adjusted scenarios to test fiscal and residual value effects and, finally, applying break even, sensitivity, and scenario analyses to evaluate the robustness of the financial results.

11.1 Baseline Concession Model

The baseline scenario mirrors the standard concession structure of the PRA under which private developers are granted long-term operating rights in exchange for maintaining affordability standards. The model integrates the typologies and price levels defined in Savills' study, which represents the most comprehensive market assessment available for this purpose.

According to the structure of Benfica project, the operating revenue comes from renting contracts that includes:

- Residential units rented at market rate rents.
- Affordable housing at "haircut" rents.
- Commercial and service spaces rented at market rate rents.
- Parking facilities rented at market rate rents.

The income from the housing properties rentals considers the total net are of each typology (from T0 to T4) multiplied by the market (or affordable) rent/month per square meter. This is exact the same method applied to commercial stores and services spaces. The only exception is the parking calculation that is based on units.

Despite of the considerable "haircut" applied to all typologies for units at affordable prices as shown in table 11.1, the housing mix ratio makes this segment the main source of revenue for Marcellus Capital and rentals at market prices at second place. Then, the other segments that offer additional rental income while providing diversified income, more specifically, the spaces for commerce and services and parking slots come in third and fourth, respectively.

Table 11.1 - Rents. Source: Self Elaboration

HOUSING - FREE RENTS

#	Number of Units	Area*	Total Net Area	Market Rent/month	Market Rent/year	Total Rent/year	Market Rent/month/m2	Market Rent/year/m2
T0	34	39	1 337	550 €	6 600 €	226 710 €	14	170
T1	44	58	2 516	750 €	9 000 €	391 590 €	13	156
T2	102	73	7 481	900 €	10 800 €	1 103 047 €	12	147
T3	38	91	3 445	1 050 €	12 600 €	476 091 €	12	138
T4	11	111	1 271	1 200 €	14 400 €	164 880 €	11	130
	229		16 050	859 €		2 362 318 €	12.34	148.11
			70					

HOUSING - AFFORDABLE RENTS

#	Number of Units	Area*	Total Net Area	Affordable Rent/month	Rent Haircut	Affordable Rent/year	Total Affordable Rent/year	Affordable Rent/month/m2	Affordable Rent/year/m2
T0	135	39	5 307	400 €	27%	4 800 €	647 448 €	10	122
T1	135	57	7 721	500 €	33%	6 000 €	809 310 €	9	105
T2	137	73	10 048	600 €	33%	7 200 €	985 511 €	8	98
T3	52	90	4 714	800 €	24%	9 600 €	502 121 €	9	107
T4	0	0	0	800 €	33%	9 600 €	- €	7	86
	459		27 790	535 €	30%		2 944 390 €	8.63	103.58
			61						

COMMERCIAL AND SERVICES

#	Total Area	Market Rent/month/m2	Market Rent/month	Market Rent/year	Market Rent/year/m2
Commercial stores	2 814	14 €	39 396 €	472 752 €	168 €
Services and Offices	10 221	14 €	143 094 €	1 717 128 €	168 €
Equipments	1 345	- €	- €	- €	- €
	14 380	13 €		2 189 880 €	

PARKING

#	Number of Units	Market Rent/month/unit	Market Rent/month	Market Rent/year	Market Rent/year/unit
Private Parking	933	50 €	46 650 €	559 800 €	600 €
Public Parking	217	50 €	10 850 €	130 200 €	600 €
	1150	50 €		690 000 €	

As like the Appendix I until R shows the baseline parameters are summarised as follows:

- Housing mix ratio: 33% market-rate and 67% affordable housing.
- Occupancy rate: 85%, reflecting vacancy and administrative turnover.
- VAT: 23% for market-rate units CAPEX and 6% for affordable units CAPEX.
- Corporate tax: 0%, as Marcellus capital is under SIC investment structure.
- Financing: 100% equity and 0% debt.
- No residual value at the end of the concession.
- Construction phase: Between year 1 and year 3.
- Operation phase: Between year 4 and year 90.
- Working capital: variation between cash inflows from rents and cash outflows related to operational expenses.

This configuration reflects the standard financial and operational assumptions of the financial model, establishing the foundation for subsequent cash-flow projections and performance metrics.

11.1.1. Financial Assumptions and Parameters

The financial assessment follows a Discounted Cash Flow (DCF) approach with annual nominal projections across the 90-year concession period. To turns this method applicable and accurate, it's mandatory to calculate the cost of equity factor that represents the minimum return required by equity investors.

It was estimated using the Capital Asset Pricing Model (CAPM), combined with a project-specific risk premium as shown in Table 11.2:

- Risk-free rate (10-year German Bund) = 0.30%.

- Equity risk premium (from Portugal): 6.40%.
- Beta (European Real Estate sector): 0.80.

All these parameters are from 2021 and, together, they calculate the Cost of Equity for Benfica project. The result is 4,85%.

Table 11.2 – Cost of Equity. Source: Self elaboration

MACROECONOMIC AND FINANCIAL	
Market rental growth p.a.	2.00%
Inflation p.a	2.00%
Risk-free rate	-0.27%
Beta	0.80
Equity Market Risk Premium	6.40%
Base Cost of Equity	4.85%
Project-specific Premium	0.00%
Adjusted Cost of Equity	4.85%

In terms of operations assumptions the CAPEX encompasses the infrastructural, residential, commercial and parking components. All cost maps were created together with first-line contractors based on other similar projects built in the recent past and they are available to analyse in the appendix section S.

To simplify both OPEX fees are modelled as a fixed percentage (Appendix T):

1. Asset Management fee = 0,5% of equity invested with 500 000€ and 2 000 000€ annual floor and cap figures, respectively.
2. Maintenance fee = 1,5% of annually total operating income.

The depreciation is calculated linearly over 50 years for construction and 10 years for periodic rehabilitations.

11.1.2 Financial Results

The baseline scenario reflects the original parameters defined by the CML, assessing whether the PRA's structure can generate acceptable investor returns under standard assumptions. Below is how the cash-flow looks like:

Table 11.3 – NPV and IRR Baseline Scenario. Source: Self Elaboration

Unevered Cash-Flows	*Projeto Benfica Value*
Net Present Vaue (NPV)	(685 438 079) €
Internal Rate of Return (IRR)	0,44%
Payback Period	No Payback Period

The Free Cash Flow to the Firm (FCFF) and Free Cash Flow to Equity (FCFE) are equivalent, given the absence of leverage and the key financial metrics of this baseline scenario are the following:

- NPV = - 685 438 079€
- IRR = 0,44%
- Payback Period = n.a (as the it exceeds 90 years)

These results clearly demonstrate that, under the current PRA parameters, the project is financially unviable. The negative NPV indicates that the present value of future inflows fails to compensate for the initial capital invested. The IRR is significantly below the Cost of Equity (4.85%) implying that investors would not be adequately remunerated for the project's risk exposure. The Payback Period, extending beyond the 90-year concession, further confirms that full capital recovery would never occur within the contractual timeframe.

Overall, the baseline model highlights a critical misalignment between the social affordability goals and the minimum return thresholds expected by private institutional investors.

11.2 Reparametrized Concession Model

To test whether moderate fiscal or structural adjustments could enhance financial feasibility, a reparametrized Scenario was developed. The adjustments considered reflect potential measures sometimes applied in comparable European urban renewal programs:

- VAT exemption (0%) across all construction segments.
- Terminal value (10%) of total equity invested, receivable at concession end, representing residual compensation for the land use right.

These are the results applying the same discount rate (Costo f Equity equals to 4.85%), to the adjusted model as shown in Table 11.4:

- NPV = - 579 120 187€
- IRR = 0,72%
- Payback Period = n.a (as the it exceeds 90 years)

Table 11.4 – NPV and IRR New Scenario. Source: Self Elaboration

Unevered Cash-Flows	*Projeto Benfica Value*
Net Present Vaue (NPV)	(579 120 187) €
Internal Rate of Return (IRR)	0,72%
Payback Period	No Payback Period

While these results represent an improvement relative to the baseline, the project remains quite below financial viability thresholds. Both measures are insufficient to meet investor return criteria which reinforces the idea that financial feasibility cannot be achieved solely through isolated fiscal interventions.

11.3 Break-Even Analysis

The break-even analysis explores the magnitude of adjustment required in key financial variables for the project to reach NPV = 0. This analysis was done by multipliers (e.g. housing revenues, CAPEX construction costs or discount rate) and they reflect how these variables would need to change for the project to achieve equilibrium as shown in Table 11.5:

*Table 11.5 – Goal Seek. S*ource: Self Elaboration

Goal Seek -> General	Break-even	Original Value	Break-even point/Original	Margin of Error	Safety Margin
Revenues Multiplier (Housing)	**6,23**	1	622,55%	**-522,55%**	-83,94%
CAPEX Multiplier (Construction)	**0,16**	1	16,41%	**83,59%**	509,23%
Discount Rate	**0,72%**	4,85%	14,80%	**85,20%**	575,90%

These are the main findings:

1. Housing revenues would need to increase by 622%.
2. Construction CAPEX would need to decrease almost 84%.
3. Discount rate (or Cost of Equity) would need to fall to around 85%.

All these results underscore that no single variable adjustment can render the project viable. The magnitude of change required across all parameters would be economically and politically infeasible, confirming the need for multi-dimensional adjustments.

11.4 Sensitivity Analysis

Following the break-even analysis, the sensitivity explore how two changes at the same time might improve outcomes. The bivariate sensitivity analysis tests how NPV and IRR react when two variables change simultaneously, specifically as shown in Table 11.6:

A. Housing revenues vs. Construction CAPEX, and
B. Hosuing revenues vs. Cost of Equity.

Table 11.6 – Sensitivity Analysis. Sourse: Self Elaboration

Sensitivity Analysis of Revenues (Housing) and Capex (Construction)

Revenues (Housing) \ CAPEX (Construction)	0,20	0,40	0,60	0,80	1,00	1,20	1,40	1,60	1,80
(685 438 079) €									
0,5	(80 257 337) €	(218 826 210) €	(357 395 084) €	(495 963 957) €	(634 532 830) €	(773 101 704) €	(911 670 577) €	(1 050 239 450) €	(1 188 808 323) €
1	(24 844 692) €	(163 413 566) €	(301 982 440) €	(440 551 314) €	(579 120 187) €	(717 689 061) €	(856 257 935) €	(994 826 809) €	(1 133 395 683) €
1,5	30 567 952 €	(108 000 922) €	(246 569 795) €	(385 138 669) €	(523 707 543) €	(662 276 417) €	(800 845 291) €	(939 414 164) €	(1 077 983 038) €
2	85 980 596 €	(52 588 277) €	(191 157 151) €	(329 726 025) €	(468 294 899) €	(606 863 772) €	(745 432 646) €	(884 001 520) €	(1 022 570 394) €
2,5	141 393 241 €	2 824 367 €	(135 744 507) €	(274 313 381) €	(412 882 254) €	(551 451 128) €	(690 020 002) €	(828 588 876) €	(967 157 749) €
3	196 805 885 €	58 237 011 €	(80 331 862) €	(218 900 736) €	(357 469 610) €	(496 038 484) €	(634 607 357) €	(773 176 231) €	(911 745 105) €
3,5	252 218 530 €	113 649 656 €	(24 919 218) €	(163 488 092) €	(302 056 966) €	(440 625 839) €	(579 194 713) €	(717 763 587) €	(856 332 461) €
4	307 631 174 €	169 062 300 €	30 493 426 €	(108 075 447) €	(246 644 321) €	(385 213 195) €	(523 782 069) €	(662 350 943) €	(800 919 816) €
4,5	363 043 818 €	224 474 945 €	85 906 071 €	(52 662 803) €	(191 231 677) €	(329 800 551) €	(468 369 424) €	(606 938 298) €	(745 507 172) €

Sensitivity Analysis of Revenues (Housing) and Discount Rate

Revenues (Housing) \ Discount Rate	0,97%	1,94%	2,91%	3,88%	4,85%	5,82%	6,79%	7,76%	8,73%
(685 438 079) €									
0,5	(366 105 857) €	(313 860 436) €	(265 074 220) €	(219 385 794) €	(176 552 853) €	(139 331 802) €	(106 560 170) €	(78 631 840) €	(54 867 326) €
1	(98 359 609) €	(68 381 172) €	(474 301 112) €	(543 963 898) €	(579 120 187) €	(596 898 894) €	(604 906 287) €	(607 082 753) €	(605 899 071) €
1,5	169 476 654 €	(182 901 990) €	(368 123 090) €	(468 341 815) €	(523 707 543) €	(554 465 573) €	(571 172 395) €	(579 553 659) €	(582 550 336) €
2	437 312 917 €	(17 422 049) €	(259 446 880) €	(392 719 831) €	(468 294 899) €	(512 032 665) €	(537 478 502) €	(551 984 565) €	(559 492 430) €
2,5	705 149 180 €	148 056 626 €	(150 769 764) €	(317 097 847) €	(412 882 254) €	(469 599 753) €	(503 784 610) €	(524 435 470) €	(536 434 139) €
3	972 985 443 €	313 535 892 €	(42 092 648) €	(241 475 862) €	(357 469 610) €	(427 166 840) €	(470 090 718) €	(496 886 376) €	(513 375 847) €
3,5	1 240 821 706 €	479 015 157 €	66 584 468 €	(165 853 878) €	(302 056 966) €	(384 733 928) €	(436 396 826) €	(469 337 283) €	(490 317 556) €
4	1 508 657 970 €	644 494 423 €	175 261 584 €	(90 231 893) €	(246 644 321) €	(342 301 015) €	(402 702 934) €	(441 788 189) €	(467 459 266) €
4,5	1 776 494 233 €	809 973 689 €	283 938 700 €	(14 609 909) €	(191 231 677) €	(299 868 103) €	(369 009 042) €	(414 239 095) €	(444 600 976) €

These are the main results:

- The project only starts to be viable when housing rents increase than CAPEX decreases significantly. Example: rents increase by more than 50% and CAPEX decreases by at least 80%;
- Even if the housing rents increase by 100% and the discount rate drops to 1,94%, the NPV is still negative;

All these are negative results suggest that further measure should be studied to overtake the current obstacles to reach a positive outlook to Benfica Project under PRA.

12. Conclusion

The results from all modelling stages reveal the inherent tension between social affordability and financial sustainability in long-term urban concessions.

From an investment perspective, Marcellus Capital faces a dilemma between financial return and strategic positioning. However, although the project brings with it remarkable reputational capital, alignment with ESG criteria, and the advantage of being a pioneer in the social housing sector in Portugal, its structure is not profitable according to conventional metrics, which makes it impossible for the Portuguese fund to apply under the terms of the original agreement. Like Marcellus Capital, other institutions may have closely analysed this investment opportunity, but perhaps due to these projections and financial perspectives, they did not submit bids. In fact, at the time this thesis is being submitted (October 2025), this framework has not materialized. Although the plan stipulated the submission of proposals by August 2021, no proposal was awarded, and the work on the Benfica Project did not proceed (Idealista, *Renda acessível: Lisboa desiste de concursos em três zonas,* 2022)

From a policy standpoint, the analysis underscores the need for cooperative financing models between municipalities and private investors, such as a housing voucher or up-front non-refundable contribution measures. Perhaps, measures such as housing voucher or up-front non-refundable contribution should be studied to see if they can turn around the current situation.

In essence, the financial evaluation highlights that sustainable urban development cannot rely solely on private capital or public subsidy, and it must result from a structured public-private equilibrium that ensures both economic efficiency and social inclusivity.

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Appendices

Appendix A – *Programa Renda Acessível: Vista aérea do projeto na zona da Ajuda.* Source: Savills (2021)



Appendix B – *Programa Renda Acessível: Vista aérea do projeto na zona de Benfica.* Source: Savills (2021)



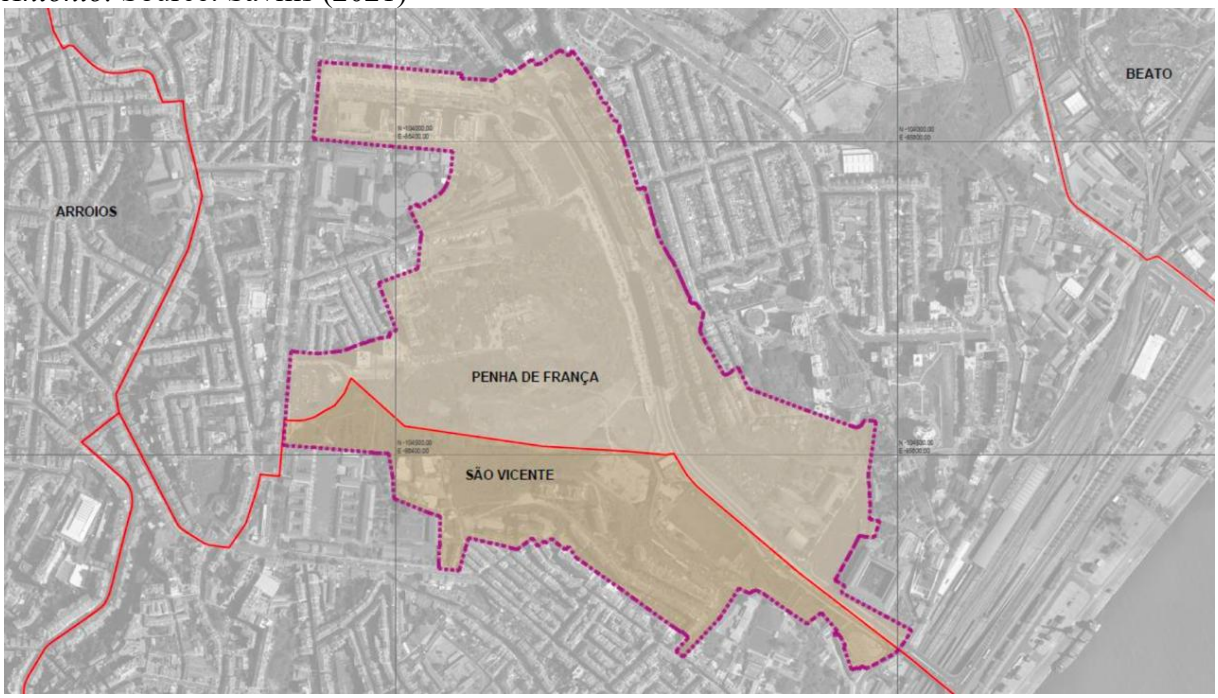
Appendix C – *Programa Renda Acessível: Vista aérea do projeto na zona do Parque das Nações.* Source: Savills (2021)



Appendix D – *Programa Renda Acessível: Vista aérea do projeto na zona de Paço da Rainha.* Source: Savills (2021)



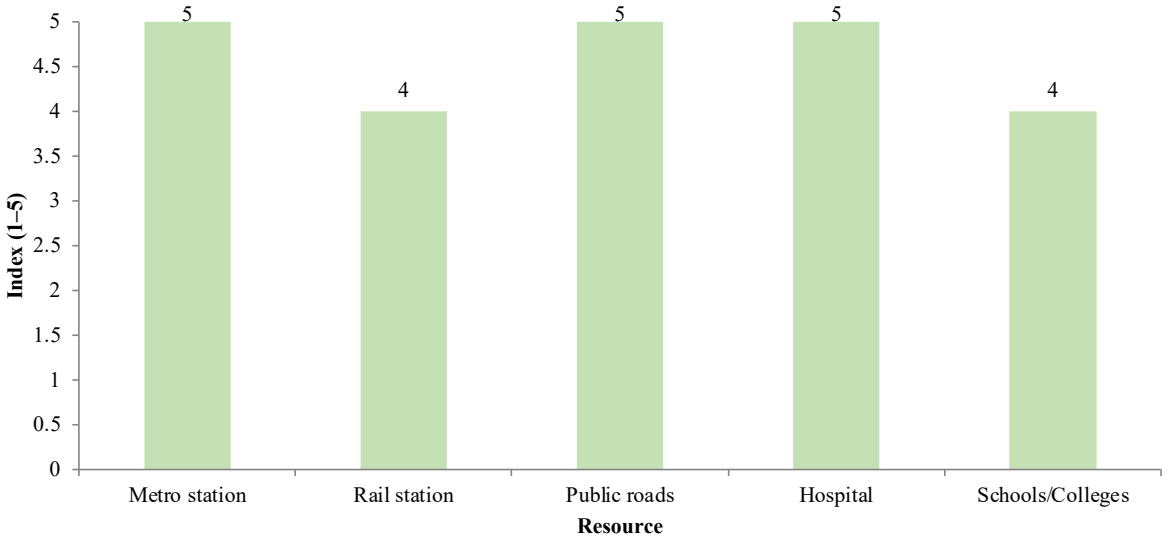
Appendix E – *Programa Renda Acessível: Vista aérea do projeto na zona de Vale de Santo António.* Source: Savills (2021)



Appendix F – *Programa Renda Acessível: Vista aérea do projeto na zona de Olaias.* Source: Savills (2021)



Appendix G – *Index for accessibility/proximity at Benfica area.* Source: Author's assessment based on CML (2020)



Appendix H – *Key Structural Features of the Benfica Urban Development Projects.* Source: Lisbon City Council (CML, 2020); Savills (2021); Author's systematisation

Dimension	Description	Relevance for Marcellus Capital
Total Area	62,000 m²	Enables operational scale and efficiency
Total Units	688	Diversifies income and optimises cost structure
Tenure Mix	2/3 affordable rent, 1/3 market rate (base scenario)	Balances financial sustainability and social objectives
Contract Model	90-year concession	Provides long-term income stability
Ownership Structure	Public land, private development & management	Reduces speculative exposure
Typology	Predominantly T0, T1 and T2 apartments	Matches local demographic demand
Governance Model	Hybrid (internal financial control + outsourced	Ensures efficiency with accountability

Appendix I – *General Assumptions.* Source: Self elaboration

GENERAL ASSUMPTIONS	
Project Name	Benfica Project
Author	Marcelo Pereira
Type of Contract	Concession Model
Lenght of Contract	90
Start Date	Mar/21

Appendix J – *Acquisition Assumptions.* Source: Self elaboration

ACQUISITION ASSUMPTIONS	
Puchase Price	10 600 000 €
Real Estate Transfer Taxes	6.5%
Real Estate Broker/Agency	0.0%
Property Deed and other Costs	1.5%
All in Acquisition basis	11 448 000 €

Appendix K – *Taxes Assumptions.* Source: Self elaboration

TAXES	
VTA free rent	23%
VTA affordable rent	6%
Income Taxes	0%

Appendix L – *Number of Units Assumptions.* Source: Self elaboration

NUMBER OF UNITS	
Houses	688
Commercial and Services	-
Parking	1 294

Appendix M – *Occupancy Scenarios.* Source: Self elaboration

OCCUNPANCY SCENARIOS	
Worst	80%
Intermediate	85%
Best	90%

% OCCUNPANCY	
Applicable to the Financial Analysis	85.0%

Appendix N – *Rents Split.* Source: Self elaboration

RENTS SPLIT	
% Affordable Rents	66.7%
% Market Rents	33.3%
TOTAL	100.0%

Appendix O – *% and Number of Housing Typology.* Source: Self elaboration

HOUSING TYPOLOGY	*% FREE RENT*	*% AFFORDABLE RENT*
T0	15%	29%
T1	19%	29%
T2	45%	30%
T3	17%	11%
T4	5%	0%
TOTAL	100%	100%

HOUSING TYPOLOGY	*Nº of FREE RENT*	*Nº of AFFORDABLE RENT*
T0	34	135
T1	44	135
T2	102	137
T3	38	52
T4	11	0
TOTAL	229	459

Appendix P – *SF by Typology.* Source: Self elaboration

COMMERCIAL, SERVICES AND EQUIPMENTS SQUARE FOOT	
Commercial and Services SF	13 256
Commercial and Services SF	13 035
Equipments SF	7 838
Equipments SF	1 345

OTHERS SQUARE FOOT	
Urbanization SF	13 639
Green Spaces SF	2 584

Appendix Q – *Parking Assumptions.* Source: Self elaboration

PARKING	
Private Parking	933
Public Parking	217
Street Parking	144
TOTAL	1 294

PARKING SQUARE FOOT	
Private Parking SF	29 837
Public Parking SF	6 940
Street Parking SF	-

Appendix R – *Timing Assumptions.* Source: Self elaboration

TIMING	
Capex Start (Quarter)	1
Capex length	12
Capex End (Quarter)	12
Addicional Void Period	0
New Lease	13
Light Rehabilitation	1
Total Rehabilition	3
New Lease length (Quarter)	20

Appendix S – *CAPEX Assumptions.* Source: Self elaboration

CAPEX Housing	
Capex per sqm	1 100 €
Contingency costs per sqm	0%
Total Capex sqm	1 100 €
Start Date	1
End Date	12

CAPEX Housing - Light Rehabilitation	
Coefficient	20%
Light Rehabilitation Capex per sqm	220 €
Contingency costs per sqm	0%
Total Capex per sqm	220 €
Recurrence	40
Capex length	1

CAPEX Housing - Total Rehabilitation	
Coefficient	0%
Total Rehabilitation Capex per sqm	- €
Contingency costs per sqm	0%
Total Capex per sqm	- €
Recurrence	0
Capex length	0

CAPEX Commercial and Services	
Capex per sqm	950 €
Contingency costs per sqm	0%
Total Capex sqm	950 €
Start Date	1
End Date	12

CAPEX Commercial and Services - Light Rehabilitation	
Coefficient	20%
Total Rehabilitation Capex per sqm	190 €
Contingency costs per sqm	0%
Total Capex sqm	190 €
Recurrence	40
Capex length	1

CAPEX Commercial and Services - Total Rehabilitation	
Coefficient	0%
Total Rehabilitation Capex per sqm	- €
Contingency costs per sqm	0%
Total Capex sqm	- €
Recurrence	0
Capex length	0

CAPEX Parking	
Capex per unit	100 €
Contingency costs per unit	0%
Total Capex per unit	100 €
Start Date	1
End Date	12

CAPEX Parking - Light Rehabilitation	
Coefficient	20%
Total Rehabilitation Capex per unit	20 €
Contingency costs per unit	0%
Total Capex per unit	20 €
Recurrence	40
Capex length	1

Appendix T – *OPEX Assumptions.* Source: Self elaboration

OPEX		
Asset Management Costs		0.5%
	Floor	500 000 €
	Cap	2 000 000 €
Maintenance Costs		1.5%

Appendix U – *Financing Assumptions.* Source: Self elaboration

FINANCING	
LTC	65%
Equity	35%
Interest Only?	Yes
Interest Only Period	12
All-in Interest p.a	4.5%
Amortisation p.a	1.0%

EXIT	
Exit quarter	360
Exit yield (Terminal Value)	10%
Exit costs (Terminal Value)	0%

Appendix V – *Cost of Equity.* Source: Self elaboration

MACROECONOMIC AND FINANCIAL	
Market rental growth p.a.	2.00%
Inflation p.a	2.00%
Risk-free rate	-0.27%
Beta	0.80
Equity Market Risk Premium	6.40%
Base Cost of Equity	4.85%
Project-specific Premium	0.00%
Adjusted Cost of Equity	4.85%

Appendix W – *Housing Free Rents.* Source: Self elaboration

HOUSING - FREE RENTS

#	Number of Units	Area*	Total Net Area	Market Rent/month	Market Rent/year	Total Rent/year	Market Rent/month/m2	Market Rent/year/m2
T0	34	39	1 337	550 €	6 600 €	226 710 €	14	170
T1	44	58	2 516	750 €	9 000 €	391 590 €	13	156
T2	102	73	7 481	900 €	10 800 €	1 103 047 €	12	147
T3	38	91	3 445	1 050 €	12 600 €	476 091 €	12	138
T4	11	111	1 271	1 200 €	14 400 €	164 880 €	11	130
	229		16 050	859 €		2 362 318 €	12.34	148.11
			70					

Appendix X – *Housing Affordable Rents.* Source: Self elaboration

HOUSING - AFFORDABLE RENTS

#	Number of Units	Area*	Total Net Area	Affordable Rent/month	Rent Haircut	Affordable Rent/year	Total Affordable Rent/year	Affordable Rent/month/m2	Affordable Rent/year/m2
T0	135	39	5 307	400 €	27%	4 800 €	647 448 €	10	122
T1	135	57	7 721	500 €	33%	6 000 €	809 310 €	9	105
T2	137	73	10 048	600 €	33%	7 200 €	985 511 €	8	98
T3	52	90	4 714	800 €	24%	9 600 €	502 121 €	9	107
T4	0	0	0	800 €	33%	9 600 €	- €	7	86
	459		27 790	535 €	30%		2 944 390 €	8.63	103.58
			61						

Appendix Y – *Commercial and Parking Rents.* Source: Self elaboration

COMMERCIAL AND SERVICES

#	Total Area	Market Rent/month/m2	Market Rent/month	Market Rent/year	Market Rent/year/m2
Commercial stores	2 814	14 €	39 396 €	472 752 €	168 €
Services and Offices	10 221	14 €	143 094 €	1 717 128 €	168 €
Equipments	1 345	- €	- €	- €	- €
	14 380	13 €		2 189 880 €	

PARKING

#	Number of Units	Market Rent/month/unit	Market Rent/month	Market Rent/year	Market Rent/year/unit
Private Parking	933	50 €	46 650 €	559 800 €	600 €
Public Parking	217	50 €	10 850 €	130 200 €	600 €
	1150	50 €		690 000 €	

Appendix Z – *Construction Map-Free Rent.* Source: Self elaboration

	Projeto Benfica *Housing (at market-rate rents)*		
Works Description	***Units***	***%***	***Total***
Demolitions and Earthworks			5 693 676 €
Demolitions			4 254 184 €
Existing Buildings Demolition	m2	1.5%	3 224 120 €
Removal of Asbestos Cement	m2	0.5%	1 030 064 €
Excavation and Backfilling			1 439 492 €
Excavation of Building Basements	m3	0.3%	545 833 €
Clearing/Excavation of External Areas and Cleaning	m3	0.2%	459 247 €
Execution of Backfill	m3	0.2%	434 412 €
Structures and Architecture			104 437 988 €
Structures incl. Foundations	m2	16.5%	35 937 055 €
Architecture	m2	31.5%	68 500 933 €
Special Installations			49 985 868 €
Building Hydraulic Installations (e.g. water supply, wastewater, rainwater, fire p	m2	3.5%	7 668 668 €
Gas Installations	m2	0.3%	645 539 €
Electrical/Telecommunications/Integrated Security Installations	m2	9.5%	20 587 562 €
Air Conditioning and Ventilation Installations	m2	9.0%	19 509 636 €
Lifts	unit	0.7%	1 574 463 €
Furniture and/or Appliances			23 908 901 €
Interior Furniture	unit	9.5%	20 616 869 €
Common Area and Other Furniture (e.g. signage)	Vg	1.5%	3 292 032 €
Public Spaces			5 490 319 €
External Infrastructures (e.g. drainage, electrical, telecoms and lighting)	m2	0.9%	1 890 649 €
External Pavements/Walkways	m2	0.4%	871 287 €
External Areas (e.g. irrigation network + outdoor furniture)	m2	0.9%	1 916 451 €
Green Areas (e.g. gardens)	m2	0.4%	811 932 €
General			27 689 216 €
Site Overheads	€	11.5%	25 033 182 €
Insurance and Guarantees	€	1.2%	2 656 034 €
Total Estimated Value			**217 206 075 €**
Construction Area	m2		16 050
Number of Dwellings	unit		229
Number of Quarters	unit		12
Cost per m² per Quarter	€		1 128 €

Note: The cost map was created together with first-line contractors based on other similar projects built in the recent past

Appendix AA – *Construction Map-Affordable Rent.* Source: Self elaboration

	Projeto Benfica *Housing (at affordable rents)*		
Works Description	***Units***	***%***	***Total***
Demolitions and Earthworks			9 858 234 €
Demolitions			7 365 846 €
Existing Buildings Demolition	m2	1.5%	5 582 357 €
Removal of Asbestos Cement	m2	0.5%	1 783 489 €
Excavation and Backfilling			2 492 388 €
Excavation of Building Basements	m3	0.3%	945 075 €
Clearing/Excavation of External Areas and Cleaning	m3	0.2%	795 157 €
Execution of Backfill	m3	0.2%	752 157 €
Structures and Architecture			180 827 683 €
Structures incl. Foundations	m2	16.5%	62 222 707 €
Architecture	m2	31.5%	118 604 976 €
Special Installations			86 547 327 €
Building Hydraulic Installations (e.g. water supply, wastewater, rainwater, fire protection)	m2	3.5%	13 277 807 €
Gas Installations	m2	0.3%	1 117 710 €
Electrical/Telecommunications/Integrated Security Installations	m2	9.5%	35 646 044 €
Air Conditioning and Ventilation Installations	m2	9.0%	33 779 685 €
Lifts	unit	0.7%	2 726 081 €
Furniture and/or Appliances			41 396 731 €
Interior Furniture	unit	9.5%	35 696 788 €
Common Area and Other Furniture (e.g. signage)	Vg	1.5%	5 699 943 €
Public Spaces			9 506 135 €
External Infrastructures (e.g. drainage, electrical, telecoms and lighting)	m2	0.9%	3 273 537 €
External Pavements/Walkways	m2	0.4%	1 508 578 €
External Areas (e.g. irrigation network + outdoor furniture)	m2	0.9%	3 318 212 €
Green Areas (e.g. gardens)	m2	0.4%	1 405 808 €
General			47 942 103 €
Site Overheads	€	11.5%	43 343 350 €
Insurance and Guarantees	€	1.2%	4 598 753 €
Total Estimated Value			**376 078 401 €**
Construction Area	m2		27 790
Number of Dwellings	unit		459
Number of Quarters	unit		12
Cost per m² per Quarter	€		1 128 €

Note: The cost map was created together with first-line contractors based on other similar projects built in the recent past

Appendix AB – *Construction Map Commercial.* Source: Self elaboration

	Projeto Benfica (Commercial and Services)		
Works Description	***Units***	***%***	***Total***
Demolitions and Earthworks			4 405 625 €
Demolitions			3 291 781 €
Existing Buildings Demolition	m2	1.5%	2 494 744 €
Removal of Asbestos Cement	m2	0.5%	797 038 €
Excavation and Backfilling			1 113 843 €
Excavation of Building Basements	m3	0.3%	422 352 €
Clearing/Excavation of External Areas and Cleaning	m3	0.2%	355 354 €
Execution of Backfill	m3	0.2%	336 137 €
Structures and Architecture			80 811 518 €
Structures incl. Foundations	m2	16.5%	27 807 199 €
Architecture	m2	31.5%	53 004 319 €
Special Installations			38 677 822 €
Building Hydraulic Installations (e.g. water supply, wastewater, rainwater, fire protection)	m2	3.5%	5 933 824 €
Gas Installations	m2	0.3%	499 502 €
Electrical/Telecommunications/Integrated Security Installations	m2	9.5%	15 930 143 €
Air Conditioning and Ventilation Installations	m2	9.0%	15 096 071 €
Lifts	unit	0.7%	1 218 280 €
Furniture and/or Appliances			18 500 113 €
Interior Furniture	unit	9.5%	15 952 821 €
Common Area and Other Furniture (e.g. signage)	Vg	1.5%	2 547 293 €
Public Spaces			4 248 272 €
External Infrastructures (e.g. drainage, electrical, telecoms and lighting)	m2	0.9%	1 462 937 €
External Pavements/Walkways	m2	0.4%	674 181 €
External Areas (e.g. irrigation network + outdoor furniture)	m2	0.9%	1 482 902 €
Green Areas (e.g. gardens)	m2	0.4%	628 253 €
General			21 425 227 €
Site Overheads	€	11.5%	19 370 054 €
Insurance and Guarantees	€	1.2%	2 055 173 €
Total Estimated Value			**168 068 660 €**
Construction Area	m2		14 380
Number of Quarters	unit		12
Cost per m² per Quarter	€		974 €

Note: The cost map was created together with first-line contractors based on other similar projects built in the recent past

Appendix AC – *Construction Map Parking.* Source: Self elaboration

	Projeto Benfica (Parking)		
Works Description	***Units***	***%***	***Total***
Demolitions	m2	2.0%	27 711 €
Excavation and Backfilling	m3	0.7%	9 376 €
Structures and Architecture	m2	48.1%	680 281 €
Special Installations	m2	23.0%	325 595 €
Furniture and/or Appliances	unit	11.0%	155 736 €
Public Spaces	m2	2.5%	35 762 €
General		12.7%	180 360 €
Total Estimated Value			**1 414 823 €**
Number of Parking Slots	unit		1 150
Number of Quarters	unit		12
Cost per m² per Quarter	€		103 €

Note: The cost map was created together with first-line contractors based on other similar projects built in the recent past

Appendix AD – *Housing-free Rent Calculations.* Source: Self elaboration

Total Surface Area

#	Number of Units	Total Area
T0	34	1 337
T1	44	2 516
T2	102	7 481
T3	38	3 445
T4	11	1 271

Market Rent per sqm per quarter

#	Number of Units	Rents per sqm/month	Growth Rate/year
T0	34	14 €	2.0%
T1	44	13 €	2.0%
T2	102	12 €	2.0%
T3	38	12 €	2.0%
T4	11	11 €	2.0%

Capex Toggle - CONSTRUCTION

#	Capex Start	Capex End	Additional Void Capex
T0	1	12	0
T1	1	12	0
T2	1	12	0
T3	1	12	0
T4	1	12	0

Capex Toggle - LIGHT REHABILITATION (every 10 years)

#	Capex Start 1	Capex End 1	Capex Start 2	Capex End 2	Capex Start 3	Capex End 3
T0	52	52	92	92	132	132
T1	52	52	92	92	132	132
T2	52	52	92	92	132	132
T3	52	52	92	92	132	132
T4	52	52	92	92	132	132

Capex costs per sqm per quarter - CONSTRUCTION

#	Number of Units	Capex costs per sqm (incl. VTA	Inflation rate
T0	34	1 100 €	2.0%
T1	44	1 100 €	2.0%
T2	102	1 100 €	2.0%
T3	38	1 100 €	2.0%
T4	11	1 100 €	2.0%

Capex costs per sqm per quarter - LIGHT REHABILITATION (every 10 years)

#	Number of Units	Coeficient	Capex costs per sqm (incl. VTA	Inflation rate
T0	34	20%	220 €	2.0%
T1	44	20%	220 €	2.0%
T2	102	20%	220 €	2.0%
T3	38	20%	220 €	2.0%
T4	11	20%	220 €	2.0%

Capex costs per sqm per quarter - TOTAL REHABILITATION (every 50 years)

#	Number of Units	Coeficient	Capex costs per sqm (incl. VTA	Inflation rate
T0	34	0%	- €	2.0%
T1	44	0%	- €	2.0%
T2	102	0%	- €	2.0%
T3	38	0%	- €	2.0%
T4	11	0%	- €	2.0%

Model Capex costs per sqm per quarter - CONSTRUCTION

#	Number of Units
T0	34
T1	44
T2	102
T3	38
T4	11

Model Capex costs per sqm per quarter - LIGHT REHABILITATION (every 10 years)

#	Number of Units
T0	34
T1	44
T2	102
T3	38
T4	11

Model Capex costs per sqm per quarter - TOTAL REHABILITATION (every 50 years)

#	Number of Units
T0	34
T1	44
T2	102
T3	38
T4	11

Occupied sqm

#	Number of Units	% Occupancy
T0	34	85%
T1	44	85%
T2	102	85%
T3	38	85%
T4	11	85%

Model Opex costs per quarter - MAINTENANCE

#	Number of Units	% Maintenance cost
T0	34	1.5%
T1	44	1.5%
T2	102	1.5%
T3	38	1.5%
T4	11	1.5%

Model Opex costs per quarter - ASSET MANAGEMENT

#	Number of Units	% Asset Management cost
T0	34	0.5%
T1	44	0.5%
T2	102	0.5%
T3	38	0.5%
T4	11	0.5%

Appendix AE – *Housing-Affordable Rent Calculations.* Source: Self elaboration

Total Surface Area

#	Number of Units	Total Area
T0	135	5 307
T1	135	7 721
T2	137	10 048
T3	52	4 714
T4	0	0

Market Rent per sqm per quarter

#	Number of Units	Rents per sqm/month	Growth Rate/year
T0	135	10 €	2.0%
T1	135	9 €	2.0%
T2	137	8 €	2.0%
T3	52	9 €	2.0%
T4	0	7 €	2.0%

Capex Toggle - CONSTRUCTION

#	Capex Start	Capex End	Additional Void Capex
T0	1	12	0
T1	1	12	0
T2	1	12	0
T3	1	12	0
T4	1	12	0

Capex Toggle - LIGHT REHABILITATION (every 10 years)

#	Capex Start 1	Capex End 1	Capex Start 2	Capex End 2	Capex Start 3	Capex End 3
T0	52	52	92	92	132	132
T1	52	52	92	92	132	132
T2	52	52	92	92	132	132
T3	52	52	92	92	132	132
T4	52	52	92	92	132	132

Capex costs per sqm per quarter - CONSTRUCTION

#	Number of Units	Capex costs per sqm (incl. VTA	Inflation rate
T0	135	1 100 €	2.0%
T1	135	1 100 €	2.0%
T2	137	1 100 €	2.0%
T3	52	1 100 €	2.0%
T4	0	1 100 €	2.0%

Capex costs per sqm per quarter - LIGHT REHABILITATION (every 10 years)

#	Number of Units	Coeficient	Capex costs per sqm (incl. VTA	Inflation rate
T0	135	20%	220 €	2.0%
T1	135	20%	220 €	2.0%
T2	137	20%	220 €	2.0%
T3	52	20%	220 €	2.0%
T4	0	20%	220 €	2.0%

Capex costs per sqm per quarter - TOTAL REHABILITATION (every 50 years)

#	Number of Units	Coeficient	Capex costs per sqm (incl. VTA	Inflation rate
T0	135	0%	- €	2.0%
T1	135	0%	- €	2.0%
T2	137	0%	- €	2.0%
T3	52	0%	- €	2.0%
T4	0	0%	- €	2.0%

Model Capex costs per sqm per quarter - CONSTRUCTION

#	Number of Units
T0	135
T1	135
T2	137
T3	52
T4	0

Model Capex costs per sqm per quarter - LIGHT REHABILITATION (every 10 years)

#	Number of Units
T0	135
T1	135
T2	137
T3	52
T4	0

Model Capex costs per sqm per quarter - TOTAL REHABILITATION (every 50 years)

#	Number of Units
T0	135
T1	135
T2	137
T3	52
T4	0

Occupied sqm

#	Number of Units	% Occupancy
T0	135	85%
T1	135	85%
T2	137	85%
T3	52	85%
T4	0	85%

Model Opex costs per quarter - MAINTENANCE

#	Number of Units	% Maintenance cost
T0	135	1.5%
T1	135	1.5%
T2	137	1.5%
T3	52	1.5%
T4	0	1.5%

Model Opex costs per quarter - ASSET MANAGEMENT

#	Number of Units	% Asset Management cost
T0	135	0.5%
T1	135	0.5%
T2	137	0.5%
T3	52	0.5%
T4	0	0.5%

Appendix AF – *Commercial Calculations.* Source: Self elaboration

Total Surface Area

#	Total Area
Commercial stores	2 814
Services and Offices	10 221
Equipments	1 345

Market Rent per sqm per quarter

#	Rents per sqm/month	Growth Rate/year
Commercial stores	14	2.0%
Services and Offices	14	2.0%
Equipments	0	2.0%

Capex Toggle - CONSTRUCTION

#	Capex Start	Capex End	Additional Void Capex
Commercial stores	1	12	0
Services and Offices	1	12	0
Equipments	1	12	0

Capex Toggle - LIGHT REHABILITATION (every 10 years)

#	Capex Start 1	Capex End 1	Capex Start 2	Capex End 2	Capex Start 3	Capex End 3
Commercial stores	52	52	92	92	132	132
Services and Offices	52	52	92	92	132	132
Equipments	52	52	92	92	132	132

Capex costs per sqm per quarter - CONSTRUCTION

#	Capex costs per sqm (incl. VTA)	Inflation rate
Commercial stores	950 €	2.0%
Services and Offices	950 €	2.0%
Equipments	950 €	2.0%

Capex costs per sqm per quarter - LIGHT REHABILITATION (every 10 years)

#	Coeficient	Capex costs per sqm (incl. VTA)	Inflation rate
Commercial stores	20%	190 €	2.0%
Services and Offices	20%	190 €	2.0%
Equipments	20%	190 €	2.0%

Capex costs per sqm per quarter - TOTAL REHABILITATION (every 50 years)

#	Coeficient	Capex costs per sqm (incl. VTA)	Inflation rate
Commercial stores	0%	- €	2.0%
Services and Offices	0%	- €	2.0%
Equipments	0%	- €	2.0%

Model Capex costs per sqm per quarter - CONSTRUCTION

#	Total Area
Commercial stores	2 814
Services and Offices	10 221
Equipments	1 345

Occupied sqm

#	Total Area	% Occupancy
Commercial stores	2 814	85%
Services and Offices	10 221	85%
Equipments	1 345	0%

Model Opex costs per quarter - MAINTENANCE

#	Total Area	% Maintenance cost
Commercial stores	2 814	1.5%
Services and Offices	10 221	1.5%
Equipments	1 345	1.5%

Model Opex costs per quarter - ASSET MANAGEMENT

#	Total Area	% Asset Management cost
Commercial stores	2 814	0.5%
Services and Offices	10 221	0.5%
Equipments	1 345	0.5%

Model Capex costs per quarter - CONSTRUCTION

#	Total Area
Commercial stores	2 814
Services and Offices	10 221
Equipments	1 345

Appendix AG – *Parking Calculations.* Source: Self elaboration

Market Rent per unit per quarter

#	Number of Units	Rents per unit/m	Growth Rate/year
Private Parking	933	50	2.0%
Public Parking	217	50	2.0%

Capex Toggle - CONSTRUCTION

#	Capex Start	Capex End	Additional Void Capex
Private Parking	1	12	0
Public Parking	1	12	0

Capex Toggle - LIGHT REHABILITATION (every 10 years)

#	Capex Start 1	Capex End 1	Capex Start 2	Capex End 2	Capex Start 3	Capex End 3
Private Parking	52	52	92	92	132	132
Public Parking	52	52	92	92	132	132

Capex costs per unit per quarter - CONSTRUCTION

#	Capex costs per sqm (incl. VTA)	Inflation rate
Private Parking	100.00 €	2.0%
Public Parking	100.00 €	2.0%

Capex costs per unit per quarter - LIGHT REHABILITATION (every 10 years)

#	Coeficient	Capex costs per sqm (incl. VTA	Inflation rate
Private Parking	20%	20.00 €	2.0%
Public Parking	20%	20.00 €	2.0%

Capex costs per sqm per quarter - TOTAL REHABILITATION (every 50 years)

#	Coeficient	Capex costs per sqm (incl. VTA	Inflation rate
Private Parking	0%	- €	2.0%
Public Parking	0%	- €	2.0%

Model Capex costs per unit per quarter - CONSTRUCTION

#	Number of Units
Private Parking	933
Public Parking	217

Model Capex costs per unit per quarter - LIGHT REHABILITATION (every 10 years)

#	Number of Units
Private Parking	933
Public Parking	217

Model Capex costs per sqm per quarter - TOTAL REHABILITATION (every 50 years)

#	Total Area
Private Parking	933
Public Parking	217

Occupied sqm

#	Total Area	% Occupancy
Private Parking	933	85%
Public Parking	217	85%

Model Opex costs per quarter - MAINTENANCE

#	Number of Units	% Maintenance cost
Private Parking	933	1.5%
Public Parking	217	1.5%

Model Opex costs per quarter - ASSET MANAGEMENT

#	Number of Units	% Asset Management cost
Private Parking	933	0.5%
Public Parking	217	0.5%

Nota: Os custos com Asset Management são calculados com base nos valores no equity investido

Model Capex costs per quarter - CONSTRUCTION

#	Number of Units
Private Parking	933
Public Parking	217

Appendix AH – *CF Model.* Source: Self elaboration

PROJECT - Bonfica Project - ANNUALLY CASH-FLOWS

All financials in €

Financial Item / Date	Mar/21	Mar/22	Mar/23	Mar/24	Mar/25	Mar/26	Mar/27	Mar/28	Mar/29	Mar/30
[1] Operating Income	- €	- €	- €	- €	**7 421 444 €**	**7 569 873 €**	**7 721 271 €**	**7 875 696 €**	**8 033 210 €**	**8 193 874 €**
[1.1] Housing (Market Rents)	- €	- €	- €	- €	2 141 529 €	2 184 359 €	2 228 046 €	2 272 607 €	2 318 060 €	2 364 421 €
[1.2] Housing (Affordable Rents)	- €	- €	- €	- €	2 669 198 €	2 722 582 €	2 777 034 €	2 832 574 €	2 889 226 €	2 947 010 €
[1.3] Commercial	- €	- €	- €	- €	1 985 207 €	2 024 911 €	2 065 409 €	2 106 718 €	2 148 852 €	2 191 829 €
[1.4] Parking	- €	- €	- €	- €	625 510 €	638 021 €	650 781 €	663 797 €	677 073 €	690 614 €
[2] Operating Expenditures (OPEX)	- €	**(1 247 629) €**	**(1 272 582) €**	**(1 298 033) €**	**(611 322) €**	**(613 548) €**	**(615 819) €**	**(618 135) €**	**(620 498) €**	**(622 908) €**
[2.1] Maintenance	- €	- €	- €	- €	(111 322) €	(113 548) €	(115 819) €	(118 135) €	(120 498) €	(122 908) €
[2.2] Asset Management (inc. commercial and organizational management)	- €	(1 247 629) €	(1 272 582) €	(1 298 033) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €
[3] Net Operating Income (NOI)	- €	**(1 247 629) €**	**(1 272 582) €**	**(1 298 033) €**	**6 810 123 €**	**6 956 325 €**	**7 105 452 €**	**7 257 561 €**	**7 412 712 €**	**7 570 966 €**
Total Depreciations	- €	- €	- €	- €	(8 767 448) €	(8 767 448) €	(8 767 448) €	(8 767 448) €	(8 767 448) €	(8 767 448) €
[4] Earnings Before Interest and Taxes (EBIT)	- €	**(1 247 629) €**	**(1 272 582) €**	**(1 298 033) €**	**(1 957 325) €**	**(1 811 123) €**	**(1 661 996) €**	**(1 509 887) €**	**(1 354 736) €**	**(1 196 482) €**
*Taxes***	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[5] Net Operating Profit after Taxes (NOPAT)	- €	**(1 247 629) €**	**(1 272 582) €**	**(1 298 033) €**	**(1 957 325) €**	**(1 811 123) €**	**(1 661 996) €**	**(1 509 887) €**	**(1 354 736) €**	**(1 196 482) €**
Δ Working Capital	- €	(208 973) €	(213 152) €	(217 415) €	1 224 415 €	1 248 904 €	1 273 882 €	1 299 359 €	1 325 346 €	1 351 853 €
Total Depreciations	- €	- €	- €	- €	8 767 448 €	8 767 448 €	8 767 448 €	8 767 448 €	8 767 448 €	8 767 448 €
[6] Capital Expenditures (CAPEX)	**(11 448 000) €**	**(249 237 995) €**	**(254 222 755) €**	**(259 307 210) €**	- €	- €	- €	- €	- €	- €
[6.1] Land	(11 448 000) €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.1.1] Purchase Price	(10 600 000) €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.1.2] Real Estate Transfer Taxes (RETT)	(689 000) €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.1.3] Other Costs	(159 000) €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.2] Construction	- €	(249 237 995) €	(254 222 755) €	(259 307 210) €	- €	- €	- €	- €	- €	- €
[6.3] Recurrent Rehabilitations	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[7] Exit	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[7.1] Terminal Value	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[7.2] Costs	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8] Free Cashflow to the Firm (FCFF) or Unlevered Cashflow	**(11 448 000) €**	**(250 276 651) €**	**(255 282 184) €**	**(260 387 828) €**	**5 585 708 €**	**5 707 422 €**	**5 831 570 €**	**5 958 202 €**	**6 087 366 €**	**6 219 113 €**
[8.1] Debt Drawdown	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8.2] Interest	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8.3] Amortization	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8.4] Debt Repayment	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[9] Free Cashflow to Equity (FCFE) or Levered Cashflow	**(11 448 000) €**	**(250 276 651) €**	**(255 282 184) €**	**(260 387 828) €**	**5 585 708 €**	**5 707 422 €**	**5 831 570 €**	**5 958 202 €**	**6 087 366 €**	**6 219 113 €**
Acc. Free Cashflow to the Firm (FCFF) or Acc. Unlevered Cashflow	(11 448 000) €	(261 724 651) €	(517 006 835) €	(777 394 663) €	(771 808 956) €	(766 101 534) €	(760 269 964) €	(754 311 762) €	(748 224 397) €	(742 005 284) €
Acc. Free Cashflow to Equity (FCFE) or Acc. Levered Cashflow	(11 448 000) €	(261 724 651) €	(517 006 835) €	(777 394 663) €	(771 808 956) €	(766 101 534) €	(760 269 964) €	(754 311 762) €	(748 224 397) €	(742 005 284) €

Note: The asset management fee includes costs such as: commercial and organization management fees

PROJECT - Benfica Project - ANNUALLY CASH-FLOWS

All financials in €

Financial Item / Date	Mar/31	Mar/32	Mar/33	Mar/34	Mar/35	Mar/36	Mar/37	Mar/38	Mar/39	Mar/40
[1] Operating Income	**8 357 752 €**	**8 524 907 €**	**8 695 405 €**	**8 869 313 €**	**9 046 699 €**	**9 227 633 €**	**9 412 186 €**	**9 600 430 €**	**9 792 438 €**	**9 988 287 €**
[1.1] Housing (Market Rents)	2 411 709 €	2 459 943 €	2 509 142 €	2 559 325 €	2 610 512 €	2 662 722 €	2 715 976 €	2 770 296 €	2 825 702 €	2 882 216 €
[1.2] Housing (Affordable Rents)	3 005 951 €	3 066 070 €	3 127 391 €	3 189 939 €	3 253 738 €	3 318 812 €	3 385 189 €	3 452 892 €	3 521 950 €	3 592 389 €
[1.3] Commercial	2 235 666 €	2 280 379 €	2 325 987 €	2 372 506 €	2 419 956 €	2 468 356 €	2 517 723 €	2 568 077 €	2 619 439 €	2 671 827 €
[1.4] Parking	704 426 €	718 515 €	732 885 €	747 543 €	762 494 €	777 744 €	793 299 €	809 165 €	825 348 €	841 855 €
[2] Operating Expenditures (OPEX)	**(625 366) €**	**(627 874) €**	**(630 431) €**	**(633 040) €**	**(635 700) €**	**(638 415) €**	**(641 183) €**	**(644 006) €**	**(646 887) €**	**(649 824) €**
[2.1] Maintenance	(125 366) €	(127 874) €	(130 431) €	(133 040) €	(135 700) €	(138 415) €	(141 183) €	(144 006) €	(146 887) €	(149 824) €
[2.2] Asset Management (inc. commercial and organizatonal management)	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €
[3] Net Operating Income (NOI)	**7 732 386 €**	**7 897 033 €**	**8 064 974 €**	**8 236 273 €**	**8 410 999 €**	**8 589 219 €**	**8 771 003 €**	**8 956 423 €**	**9 145 552 €**	**9 338 463 €**
Total Depreciations	(8 767 448) €	(8 767 448) €	(8 767 448) €	(8 767 448) €	(10 371 507) €	(10 371 507) €	(10 371 507) €	(10 371 507) €	(10 371 507) €	(10 371 507) €
[4] Earnings Before Interest and Taxes (EBIT)	**(1 035 062) €**	**(870 415) €**	**(702 474) €**	**(531 174) €**	**(1 960 508) €**	**(1 782 288) €**	**(1 600 504) €**	**(1 415 084) €**	**(1 225 955) €**	**(1 033 044) €**
*Taxes***	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[5] Net Operating Profit After Taxes (NOPAT)	**(1 035 062) €**	**(870 415) €**	**(702 474) €**	**(531 174) €**	**(1 960 508) €**	**(1 782 288) €**	**(1 600 504) €**	**(1 415 084) €**	**(1 225 955) €**	**(1 033 044) €**
Δ Working Capital	1 378 890 €	1 406 468 €	1 434 598 €	1 436 524 €	1 492 555 €	1 522 406 €	1 552 855 €	1 583 912 €	1 615 590 €	1 647 902 €
Total Depreciations	8 767 448 €	8 767 448 €	8 767 448 €	8 767 448 €	10 371 507 €	10 371 507 €	10 371 507 €	10 371 507 €	10 371 507 €	10 371 507 €
[6] Capital Expenditures (CAPEX)	**- €**	**- €**	**- €**	**(16 040 593) €**	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**
[6.1] Land	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.1.1] Puchase Price	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.1.2] Real Estate Transfer Taxes (RETT)	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.1.3] Other Costs	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.2] Construction	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.3] Recurrent Rehabiliations	- €	- €	- €	(16 040 593) €	- €	- €	- €	- €	- €	- €
[7] Exit	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**
[7.1] Terminal Value	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[7.2] Costs	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8] Free Cashflow to the Firm (FCFF) or Unlevered Cashflow	**6 353 495 €**	**6 490 565 €**	**6 630 376 €**	**(9 240 844) €**	**6 918 444 €**	**7 066 812 €**	**7 218 149 €**	**7 372 512 €**	**7 529 962 €**	**7 690 561 €**
[8.1] Debt Drawdown	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8.2] Interest	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8.3] Amortization	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8.4] Debt Repayment	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[9] Free Cashflow to Equity (FCFE) or Levered Cashflow	**6 353 495 €**	**6 490 565 €**	**6 630 376 €**	**(9 240 844) €**	**6 918 444 €**	**7 066 812 €**	**7 218 149 €**	**7 372 512 €**	**7 529 962 €**	**7 690 561 €**
Acc. Free Cashflow to the Firm (FCFF) or Acc. Unlevered Cashflow	(735 651 789) €	(729 161 224) €	(722 530 848) €	(731 771 692) €	(724 853 248) €	(717 786 436) €	(710 568 287) €	(703 195 776) €	(695 665 814) €	(687 975 253) €
Acc. Free Cashflow to Equity (FCFE) or Acc. Levered Cashflow	(735 651 789) €	(729 161 224) €	(722 530 848) €	(731 771 692) €	(724 853 248) €	(717 786 436) €	(710 568 287) €	(703 195 776) €	(695 665 814) €	(687 975 253) €

PROJECT - Benfica Project - ANNUALLY CASH-FLOWS

All financials in €

Financial Item / Date	Mar/41	Mar/42	Mar/43	Mar/44	Mar/45	Mar/46	Mar/47	Mar/48	Mar/49	Mar/50
[1] Operating Income	**10 188 053 €**	**10 391 814 €**	**10 599 650 €**	**10 811 643 €**	**11 027 876 €**	**11 248 434 €**	**11 473 402 €**	**11 702 870 €**	**11 936 928 €**	**12 175 666 €**
[1.1] Housing (Market Rents)	2 939 860 €	2 998 657 €	3 058 630 €	3 119 803 €	3 182 199 €	3 245 843 €	3 310 760 €	3 376 975 €	3 444 515 €	3 513 405 €
[1.2] Housing (Affordable Rents)	3 664 237 €	3 737 522 €	3 812 272 €	3 888 518 €	3 966 288 €	4 045 614 €	4 126 526 €	4 209 057 €	4 293 238 €	4 379 102 €
[1.3] Commercial	2 725 264 €	2 779 769 €	2 835 365 €	2 892 072 €	2 949 913 €	3 008 912 €	3 069 090 €	3 130 472 €	3 193 081 €	3 256 943 €
[1.4] Parking	858 692 €	875 866 €	893 383 €	911 251 €	929 476 €	948 065 €	967 026 €	986 367 €	1 006 094 €	1 026 216 €
[2] Operating Expenditures (OPEX)	**(652 821) €**	**(655 877) €**	**(658 995) €**	**(662 175) €**	**(665 418) €**	**(668 727) €**	**(672 101) €**	**(675 543) €**	**(679 054) €**	**(682 635) €**
[2.1] Maintenance	(152 821) €	(155 877) €	(158 995) €	(162 175) €	(165 418) €	(168 727) €	(172 101) €	(175 543) €	(179 054) €	(182 635) €
[2.2] Asset Management (inc. commercial and organizatonal management)	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €
[3] Net Operating Income (NOI)	**9 535 232 €**	**9 735 937 €**	**9 940 655 €**	**10 149 469 €**	**10 362 458 €**	**10 579 707 €**	**10 801 301 €**	**11 027 327 €**	**11 257 874 €**	**11 493 031 €**
Total Depreciations	(10 371 507) €	(10 371 507) €	(10 371 507) €	(10 371 507) €	(10 722 787) €	(10 722 787) €	(10 722 787) €	(10 722 787) €	(10 722 787) €	(10 722 787) €
[4] Earnings Before Interest and Taxes (EBIT)	**(836 275) €**	**(635 570) €**	**(430 852) €**	**(222 039) €**	**(360 329) €**	**(143 080) €**	**78 514 €**	**304 540 €**	**535 087 €**	**770 244 €**
*Taxes***	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[5] Net Operating Profit After Taxes (NOPAT)	**(836 275) €**	**(635 570) €**	**(430 852) €**	**(222 039) €**	**(360 329) €**	**(143 080) €**	**78 514 €**	**304 540 €**	**535 087 €**	**770 244 €**
Δ Working Capital	1 680 860 €	1 714 477 €	1 748 766 €	1 751 115 €	1 819 417 €	1 855 805 €	1 892 921 €	1 930 780 €	1 969 395 €	2 008 783 €
Total Depreciations	10 371 507 €	10 371 507 €	10 371 507 €	10 371 507 €	10 722 787 €	10 722 787 €	10 722 787 €	10 722 787 €	10 722 787 €	10 722 787 €
[6] Capital Expenditures (CAPEX)	**- €**	**- €**	**- €**	**(19 553 394) €**	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**
[6.1] Land	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.1.1] Puchase Price	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.1.2] Real Estate Transfer Taxes (RETT)	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.1.3] Other Costs	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.2] Construction	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.3] Recurrent Rehabiliations	- €	- €	- €	(19 553 394) €	- €	- €	- €	- €	- €	- €
[7] Exit	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**
[7.1] Terminal Value	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[7.2] Costs	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8] Free Cashflow to the Firm (FCFF) or Unlevered Cashflow	**7 854 372 €**	**8 021 460 €**	**8 191 889 €**	**(11 155 040) €**	**8 543 041 €**	**8 723 902 €**	**8 908 380 €**	**9 096 548 €**	**9 288 479 €**	**9 484 248 €**
[8.1] Debt Drawdown	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8.2] Interest	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8.3] Amortization	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8.4] Debt Repayment	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[9] Free Cashflow to Equity (FCFE) or Levered Cashflow	**7 854 372 €**	**8 021 460 €**	**8 191 889 €**	**(11 155 040) €**	**8 543 041 €**	**8 723 902 €**	**8 908 380 €**	**9 096 548 €**	**9 288 479 €**	**9 484 248 €**
Acc. Free Cashflow to the Firm (FCFF) or Acc. Unlevered Cashflow	(680 120 880) €	(672 099 421) €	(663 907 532) €	(675 062 572) €	(666 519 531) €	(657 795 629) €	(648 887 249) €	(639 790 701) €	(630 502 222) €	(621 017 974) €
Acc. Free Cashflow to Equity (FCFE) or Acc. Levered Cashflow	(680 120 880) €	(672 099 421) €	(663 907 532) €	(675 062 572) €	(666 519 531) €	(657 795 629) €	(648 887 249) €	(639 790 701) €	(630 502 222) €	(621 017 974) €

PROJECT - Benfica Project - ANNUALLY CASH-FLOWS

All financials in €

Financial Item / Date	Mar/51	Mar/52	Mar/53	Mar/54	Mar/55	Mar/56	Mar/57	Mar/58	Mar/59	Mar/60
[1] Operating Income	**12 419 180 €**	**12 667 563 €**	**12 920 914 €**	**13 179 333 €**	**13 442 919 €**	**13 711 778 €**	**13 986 013 €**	**14 265 734 €**	**14 551 048 €**	**14 842 069 €**
[1.1] Housing (Market Rents)	3 583 673 €	3 655 346 €	3 728 453 €	3 803 022 €	3 879 083 €	3 956 664 €	4 035 798 €	4 116 514 €	4 198 844 €	4 282 821 €
[1.2] Housing (Affordable Rents)	4 466 685 €	4 556 018 €	4 647 139 €	4 740 081 €	4 834 883 €	4 931 581 €	5 030 212 €	5 130 817 €	5 233 433 €	5 338 102 €
[1.3] Commercial	3 322 082 €	3 388 523 €	3 456 294 €	3 525 419 €	3 595 928 €	3 667 846 €	3 741 203 €	3 816 027 €	3 892 348 €	3 970 195 €
[1.4] Parking	1 046 741 €	1 067 675 €	1 089 029 €	1 110 809 €	1 133 026 €	1 155 686 €	1 178 800 €	1 202 376 €	1 226 423 €	1 250 952 €
[2] Operating Expenditures (OPEX)	**(686 288) €**	**(690 013) €**	**(693 814) €**	**(697 690) €**	**(701 644) €**	**(705 677) €**	**(709 790) €**	**(713 986) €**	**(718 266) €**	**(722 631) €**
[2.1] Maintenance	(186 288) €	(190 013) €	(193 814) €	(197 690) €	(201 644) €	(205 677) €	(209 790) €	(213 986) €	(218 266) €	(222 631) €
[2.2] Asset Management (inc. commercial and organizatonal management)	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €
[3] Net Operating Income (NOI)	**11 732 892 €**	**11 977 550 €**	**12 227 101 €**	**12 481 643 €**	**12 741 276 €**	**13 006 101 €**	**13 276 223 €**	**13 551 748 €**	**13 832 783 €**	**14 119 438 €**
Total Depreciations	(10 722 787) €	(10 722 787) €	(10 722 787) €	(10 722 787) €	(11 150 996) €	(11 150 996) €	(11 150 996) €	(11 150 996) €	(11 150 996) €	(11 150 996) €
[4] Earnings Before Interest and Taxes (EBIT)	**1 010 105 €**	**1 254 763 €**	**1 504 314 €**	**1 758 856 €**	**1 590 280 €**	**1 855 106 €**	**2 125 228 €**	**2 400 752 €**	**2 681 787 €**	**2 968 443 €**
*Taxes***	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[5] Net Operating Profit After Taxes (NOPAT)	**1 010 105 €**	**1 254 763 €**	**1 504 314 €**	**1 758 856 €**	**1 590 280 €**	**1 855 106 €**	**2 125 228 €**	**2 400 752 €**	**2 681 787 €**	**2 968 443 €**
A Working Capital	2 048 959 €	2 089 938 €	2 131 737 €	2 134 600 €	2 217 859 €	2 262 216 €	2 307 460 €	2 353 609 €	2 400 682 €	2 448 695 €
Total Depreciations	10 722 787 €	10 722 787 €	10 722 787 €	10 722 787 €	11 150 996 €	11 150 996 €	11 150 996 €	11 150 996 €	11 150 996 €	11 150 996 €
[6] Capital Expenditures (CAPEX)	**- €**	**- €**	**- €**	**(23 835 478) €**	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**
[6.1] Land	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.1.1] Puchase Price	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.1.2] Real Estate Transfer Taxes (RETT)	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.1.3] Other Costs	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.2] Construction	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.3] Recurrent Rehabiliations	- €	- €	- €	(23 835 478) €	- €	- €	- €	- €	- €	- €
[7] Exit	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**
[7.1] Terminal Value	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[7.2] Costs	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8] Free Cashflow to the Firm (FCFF) or Unlevered Cashflow	**9 683 933 €**	**9 887 612 €**	**10 095 364 €**	**(13 488 435) €**	**10 523 417 €**	**10 743 885 €**	**10 968 763 €**	**11 198 138 €**	**11 432 101 €**	**11 670 743 €**
[8.1] Debt Drawdown	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8.2] Interest	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8.3] Amortization	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8.4] Debt Repayment	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[9] Free Cashflow to Equity (FCFE) or Levered Cashflow	**9 683 933 €**	**9 887 612 €**	**10 095 364 €**	**(13 488 435) €**	**10 523 417 €**	**10 743 885 €**	**10 968 763 €**	**11 198 138 €**	**11 432 101 €**	**11 670 743 €**
Acc. Free Cashflow to the Firm (FCFF) or Acc. Unlevered Cashflow	(611 334 041) €	(601 446 429) €	(591 351 065) €	(604 839 499) €	(594 316 083) €	(583 572 197) €	(572 603 435) €	(561 405 297) €	(549 973 196) €	(538 302 453) €
Acc. Free Cashflow to Equity (FCFE) or Acc. Levered Cashflow	(611 334 041) €	(601 446 429) €	(591 351 065) €	(604 839 499) €	(594 316 083) €	(583 572 197) €	(572 603 435) €	(561 405 297) €	(549 973 196) €	(538 302 453) €

PROJECT - Benfica Project - ANNUALLY CASH-FLOWS

All financials in €

Financial Item / Date	Mar/61	Mar/62	Mar/63	Mar/64	Mar/65	Mar/66	Mar/67	Mar/68	Mar/69	Mar/70
[1] Operating Income	**15 138 911 €**	**15 441 689 €**	**15 750 523 €**	**16 065 533 €**	**16 386 844 €**	**16 714 581 €**	**17 048 872 €**	**17 389 850 €**	**17 737 647 €**	**18 092 400 €**
[1.1] Housing (Market Rents)	4 368 477 €	4 455 847 €	4 544 964 €	4 635 863 €	4 728 580 €	4 823 152 €	4 919 615 €	5 018 007 €	5 118 367 €	5 220 735 €
[1.2] Housing (Affordable Rents)	5 444 864 €	5 553 761 €	5 664 836 €	5 778 133 €	5 893 695 €	6 011 569 €	6 131 801 €	6 254 437 €	6 379 525 €	6 507 116 €
[1.3] Commercial	4 049 599 €	4 130 591 €	4 213 203 €	4 297 467 €	4 383 416 €	4 471 084 €	4 560 506 €	4 651 716 €	4 744 750 €	4 839 645 €
[1.4] Parking	1 275 971 €	1 301 490 €	1 327 520 €	1 354 071 €	1 381 152 €	1 408 775 €	1 436 950 €	1 465 690 €	1 495 003 €	1 524 903 €
[2] Operating Expenditures (OPEX)	**(727 084) €**	**(731 625) €**	**(736 258) €**	**(740 983) €**	**(745 803) €**	**(750 719) €**	**(755 733) €**	**(760 848) €**	**(766 065) €**	**(771 386) €**
[2.1] Maintenance	(227 084) €	(231 625) €	(236 258) €	(240 983) €	(245 803) €	(250 719) €	(255 733) €	(260 848) €	(266 065) €	(271 386) €
[2.2] Asset Management (inc. commercial and organizatonal management)	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €
[3] Net Operating Income (NOI)	**14 411 827 €**	**14 710 063 €**	**15 014 265 €**	**15 324 550 €**	**15 641 041 €**	**15 963 862 €**	**16 293 139 €**	**16 629 002 €**	**16 971 582 €**	**17 321 014 €**
Total Depreciations	(11 150 996) €	(11 150 996) €	(11 150 996) €	(11 150 996) €	(11 672 979) €	(11 672 979) €	(11 672 979) €	(11 672 979) €	(11 672 979) €	(11 672 979) €
[4] Earnings Before Interest and Taxes (EBIT)	**3 260 831 €**	**3 559 068 €**	**3 863 269 €**	**4 173 554 €**	**3 968 062 €**	**4 290 883 €**	**4 620 160 €**	**4 956 023 €**	**5 298 603 €**	**5 648 034 €**
*Taxes***	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[5] Net Operating Profit After Taxes (NOPAT)	**3 260 831 €**	**3 559 068 €**	**3 863 269 €**	**4 173 554 €**	**3 968 062 €**	**4 290 883 €**	**4 620 160 €**	**4 956 023 €**	**5 298 603 €**	**5 648 034 €**
Δ Working Capital	2 497 669 €	2 547 623 €	2 598 575 €	2 602 065 €	2 703 557 €	2 757 629 €	2 812 781 €	2 869 037 €	2 926 418 €	2 984 946 €
Total Depreciations	11 150 996 €	11 150 996 €	11 150 996 €	11 150 996 €	11 672 979 €	11 672 979 €	11 672 979 €	11 672 979 €	11 672 979 €	11 672 979 €
[6] Capital Expenditures (CAPEX)	**- €**	**- €**	**- €**	**(29 055 314) €**	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**
[6.1] Land	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.1.1] Puchase Price	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.1.2] Real Estate Transfer Taxes (RETT)	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.1.3] Other Costs	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.2] Construction	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.3] Recurrent Rehabiliations	- €	- €	- €	(29 055 314) €	- €	- €	- €	- €	- €	- €
[7] Exit	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**
[7.1] Terminal Value	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[7.2] Costs	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8] Free Cashflow to the Firm (FCFF) or Unlevered Cashflow	**11 914 158 €**	**12 162 441 €**	**12 415 690 €**	**(16 332 829) €**	**12 937 484 €**	**13 206 233 €**	**13 480 358 €**	**13 759 965 €**	**14 045 164 €**	**14 336 068 €**
[8.1] Debt Drawdown	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8.2] Interest	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8.3] Amortization	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8.4] Debt Repayment	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[9] Free Cashflow to Equity (FCFE) or Levered Cashflow	**11 914 158 €**	**12 162 441 €**	**12 415 690 €**	**(16 332 829) €**	**12 937 484 €**	**13 206 233 €**	**13 480 358 €**	**13 759 965 €**	**14 045 164 €**	**14 336 068 €**
Acc. Free Cashflow to the Firm (FCFF) or Acc. Unlevered Cashflow	(526 388 295) €	(514 225 854) €	(501 810 164) €	(518 142 994) €	(505 205 510) €	(491 999 277) €	(478 518 919) €	(464 758 954) €	(450 713 790) €	(436 377 722) €
Acc. Free Cashflow to Equity (FCFE) or Acc. Levered Cashflow	(526 388 295) €	(514 225 854) €	(501 810 164) €	(518 142 994) €	(505 205 510) €	(491 999 277) €	(478 518 919) €	(464 758 954) €	(450 713 790) €	(436 377 722) €

PROJECT - Benfica Project - ANNUALLY CASH-FLOWS

All financials in €

Financial Item / Date	Mar/71	Mar/72	Mar/73	Mar/74	Mar/75	Mar/76	Mar/77	Mar/78	Mar/79	Mar/80
[1] Operating Income	**18 454 248 €**	**18 823 332 €**	**19 199 799 €**	**19 583 795 €**	**19 975 471 €**	**20 374 980 €**	**20 782 480 €**	**21 198 130 €**	**21 622 092 €**	**22 054 534 €**
[1.1] Housing (Market Rents)	5 325 149 €	5 431 652 €	5 540 285 €	5 651 091 €	5 764 113 €	5 879 395 €	5 996 983 €	6 116 923 €	6 239 261 €	6 364 047 €
[1.2] Housing (Affordable Rents)	6 637 258 €	6 770 003 €	6 905 404 €	7 043 512 €	7 184 382 €	7 328 069 €	7 474 631 €	7 624 123 €	7 776 606 €	7 932 138 €
[1.3] Commercial	4 936 438 €	5 035 167 €	5 135 871 €	5 238 588 €	5 343 360 €	5 450 227 €	5 559 231 €	5 670 416 €	5 783 824 €	5 899 501 €
[1.4] Parking	1 555 401 €	1 586 509 €	1 618 240 €	1 650 604 €	1 683 617 €	1 717 289 €	1 751 635 €	1 786 667 €	1 822 401 €	1 858 849 €
[2] Operating Expenditures (OPEX)	**(776 814) €**	**(782 350) €**	**(787 997) €**	**(793 757) €**	**(799 632) €**	**(805 625) €**	**(811 737) €**	**(817 972) €**	**(824 331) €**	**(830 818) €**
[2.1] Maintenance	(276 814) €	(282 350) €	(287 997) €	(293 757) €	(299 632) €	(305 625) €	(311 737) €	(317 972) €	(324 331) €	(330 818) €
[2.2] Asset Management (inc. commercial and organizatonal management)	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €
[3] Net Operating Income (NOI)	**17 677 434 €**	**18 040 982 €**	**18 411 802 €**	**18 790 038 €**	**19 175 839 €**	**19 569 356 €**	**19 970 743 €**	**20 380 158 €**	**20 797 761 €**	**21 223 716 €**
Total Depreciations	(11 672 979) €	(11 672 979) €	(11 672 979) €	(11 672 979) €	(12 309 274) €	(12 309 274) €	(12 309 274) €	(12 309 274) €	(12 309 274) €	(12 309 274) €
[4] Earnings Before Interest and Taxes (EBIT)	**6 004 455 €**	**6 368 003 €**	**6 738 823 €**	**7 117 059 €**	**6 866 565 €**	**7 260 081 €**	**7 661 468 €**	**8 070 883 €**	**8 488 486 €**	**8 914 442 €**
*Taxes***	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[5] Net Operating Profit After Taxes (NOPAT)	**6 004 455 €**	**6 368 003 €**	**6 738 823 €**	**7 117 059 €**	**6 866 565 €**	**7 260 081 €**	**7 661 468 €**	**8 070 883 €**	**8 488 486 €**	**8 914 442 €**
Δ Working Capital	3 044 645 €	3 105 538 €	3 167 648 €	3 171 903 €	3 295 621 €	3 361 534 €	3 428 765 €	3 497 340 €	3 567 287 €	3 638 632 €
Total Depreciations	11 672 979 €	11 672 979 €	11 672 979 €	11 672 979 €	12 309 274 €	12 309 274 €	12 309 274 €	12 309 274 €	12 309 274 €	12 309 274 €
[6] Capital Expenditures (CAPEX)	**- €**	**- €**	**- €**	**(35 418 266) €**	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**
[6.1] Land	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.1.1] Puchase Price	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.1.2] Real Estate Transfer Taxes (RETT)	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.1.3] Other Costs	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.2] Construction	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.3] Recurrent Rehabiliations	- €	- €	- €	(35 418 266) €	- €	- €	- €	- €	- €	- €
[7] Exit	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**
[7.1] Terminal Value	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[7.2] Costs	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8] Free Cashflow to the Firm (FCFF) or Unlevered Cashflow	**14 632 789 €**	**14 935 445 €**	**15 244 154 €**	**(19 800 131) €**	**15 880 217 €**	**16 207 822 €**	**16 541 978 €**	**16 882 818 €**	**17 230 474 €**	**17 585 084 €**
[8.1] Debt Drawdown	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8.2] Interest	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8.3] Amortization	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8.4] Debt Repayment	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[9] Free Cashflow to Equity (FCFE) or Levered Cashflow	**14 632 789 €**	**14 935 445 €**	**15 244 154 €**	**(19 800 131) €**	**15 880 217 €**	**16 207 822 €**	**16 541 978 €**	**16 882 818 €**	**17 230 474 €**	**17 585 084 €**
Acc. Free Cashflow to the Firm (FCFF) or Acc. Unlevered Cashflow	(421 744 933) €	(406 809 488) €	(391 565 334) €	(411 365 465) €	(395 485 247) €	(379 277 426) €	(362 735 447) €	(345 852 629) €	(328 622 155) €	(311 037 071) €
Acc. Free Cashflow to Equity (FCFE) or Acc. Levered Cashflow	(421 744 933) €	(406 809 488) €	(391 565 334) €	(411 365 465) €	(395 485 247) €	(379 277 426) €	(362 735 447) €	(345 852 629) €	(328 622 155) €	(311 037 071) €

PROJECT - Benfica Project - ANNUALLY CASH-FLOWS

All financials in €

Financial Item / Date	Mar/81	Mar/82	Mar/83	Mar/84	Mar/85	Mar/86	Mar/87	Mar/88	Mar/89	Mar/90
[1] Operating Income	**22 495 625 €**	**22 945 537 €**	**23 404 448 €**	**23 872 537 €**	**24 349 988 €**	**24 836 987 €**	**25 333 727 €**	**25 840 402 €**	**26 357 210 €**	**26 884 354 €**
[1.1] Housing (Market Rents)	6 491 327 €	6 621 154 €	6 753 577 €	6 888 649 €	7 026 422 €	7 166 950 €	7 310 289 €	7 456 495 €	7 605 625 €	7 757 737 €
[1.2] Housing (Affordable Rents)	8 090 781 €	8 252 596 €	8 417 648 €	8 586 001 €	8 757 721 €	8 932 876 €	9 111 533 €	9 293 764 €	9 479 639 €	9 669 232 €
[1.3] Commercial	6 017 491 €	6 137 841 €	6 260 597 €	6 385 809 €	6 513 526 €	6 643 796 €	6 776 672 €	6 912 205 €	7 050 450 €	7 191 459 €
[1.4] Parking	1 896 026 €	1 933 946 €	1 972 625 €	2 012 078 €	2 052 319 €	2 093 366 €	2 135 233 €	2 177 938 €	2 221 496 €	2 265 926 €
[2] Operating Expenditures (OPEX)	**(837 434) €**	**(844 183) €**	**(851 067) €**	**(858 088) €**	**(865 250) €**	**(872 555) €**	**(880 006) €**	**(887 606) €**	**(895 358) €**	**(903 265) €**
[2.1] Maintenance	(337 434) €	(344 183) €	(351 067) €	(358 088) €	(365 250) €	(372 555) €	(380 006) €	(387 606) €	(395 358) €	(403 265) €
[2.2] Asset Management (inc. commercial and organizatonal management)	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €
[3] Net Operating Income (NOI)	**21 658 190 €**	**22 101 354 €**	**22 553 381 €**	**23 014 449 €**	**23 484 738 €**	**23 964 433 €**	**24 453 721 €**	**24 952 796 €**	**25 461 852 €**	**25 981 089 €**
Total Depreciations	(12 309 274) €	(12 309 274) €	(12 309 274) €	(12 309 274) €	(13 084 915) €	(13 084 915) €	(13 084 915) €	(13 084 915) €	(13 084 915) €	(13 084 915) €
[4] Earnings Before Interest and Taxes (EBIT)	**9 348 916 €**	**9 792 080 €**	**10 244 107 €**	**10 705 175 €**	**10 399 823 €**	**10 879 518 €**	**11 368 807 €**	**11 867 881 €**	**12 376 937 €**	**12 896 174 €**
*Taxes***	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[5] Net Operating Profit After Taxes (NOPAT)	**9 348 916 €**	**9 792 080 €**	**10 244 107 €**	**10 705 175 €**	**10 399 823 €**	**10 879 518 €**	**11 368 807 €**	**11 867 881 €**	**12 376 937 €**	**12 896 174 €**
Δ Working Capital	3 711 405 €	3 785 633 €	3 861 346 €	3 866 532 €	4 017 344 €	4 097 691 €	4 179 645 €	4 263 238 €	4 348 503 €	4 435 473 €
Total Depreciations	12 309 274 €	12 309 274 €	12 309 274 €	12 309 274 €	13 084 915 €	13 084 915 €	13 084 915 €	13 084 915 €	13 084 915 €	13 084 915 €
[6] Capital Expenditures (CAPEX)	**- €**	**- €**	**- €**	**(43 174 669) €**	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**
[6.1] Land	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.1.1] Puchase Price	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.1.2] Real Estate Transfer Taxes (RETT)	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.1.3] Other Costs	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.2] Construction	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.3] Recurrent Rehabiliations	- €	- €	- €	(43 174 669) €	- €	- €	- €	- €	- €	- €
[7] Exit	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**
[7.1] Terminal Value	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[7.2] Costs	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8] Free Cashflow to the Firm (FCFF) or Unlevered Cashflow	**17 946 785 €**	**18 315 721 €**	**18 692 035 €**	**(24 026 751) €**	**19 467 394 €**	**19 866 742 €**	**20 274 076 €**	**20 689 558 €**	**21 113 349 €**	**21 545 616 €**
[8.1] Debt Drawdown	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8.2] Interest	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8.3] Amortization	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8.4] Debt Repayment	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[9] Free Cashflow to Equity (FCFE) or Levered Cashflow	**17 946 785 €**	**18 315 721 €**	**18 692 035 €**	**(24 026 751) €**	**19 467 394 €**	**19 866 742 €**	**20 274 076 €**	**20 689 558 €**	**21 113 349 €**	**21 545 616 €**
Acc. Free Cashflow to the Firm (FCFF) or Acc. Unlevered Cashflow	(293 090 286) €	(274 774 565) €	(256 082 530) €	(280 109 281) €	(260 641 887) €	(240 775 146) €	(220 501 069) €	(199 811 511) €	(178 698 162) €	(157 152 546) €
Acc. Free Cashflow to Equity (FCFE) or Acc. Levered Cashflow	(293 090 286) €	(274 774 565) €	(256 082 530) €	(280 109 281) €	(260 641 887) €	(240 775 146) €	(220 501 069) €	(199 811 511) €	(178 698 162) €	(157 152 546) €

PROJECT - Benfica Project - ANNUALLY CASH-FLOWS

All financials in €

Financial Item / Date	Mar/91	Mar/92	Mar/93	Mar/94	Mar/95	Mar/96	Mar/97	Mar/98	Mar/99	Mar/00
[1] Operating Income	**27 422 041 €**	**27 970 482 €**	**28 529 892 €**	**29 100 489 €**	**29 682 499 €**	**30 276 149 €**	**30 881 672 €**	**31 499 306 €**	**32 129 292 €**	**32 771 877 €**
[1.1] Housing (Market Rents)	7 912 892 €	8 071 150 €	8 232 573 €	8 397 224 €	8 565 169 €	8 736 472 €	8 911 202 €	9 089 426 €	9 271 214 €	9 456 638 €
[1.2] Housing (Affordable Rents)	9 862 617 €	10 059 869 €	10 261 066 €	10 466 288 €	10 675 613 €	10 889 126 €	11 106 908 €	11 329 046 €	11 555 627 €	11 786 740 €
[1.3] Commercial	7 335 288 €	7 481 994 €	7 631 633 €	7 784 266 €	7 939 951 €	8 098 750 €	8 260 725 €	8 425 940 €	8 594 459 €	8 766 348 €
[1.4] Parking	2 311 245 €	2 357 470 €	2 404 619 €	2 452 711 €	2 501 766 €	2 551 801 €	2 602 837 €	2 654 894 €	2 707 992 €	2 762 151 €
[2] Operating Expenditures (OPEX)	**(911 331) €**	**(919 557) €**	**(927 948) €**	**(936 507) €**	**(945 237) €**	**(954 142) €**	**(963 225) €**	**(972 490) €**	**(981 939) €**	**(991 578) €**
[2.1] Maintenance	(411 331) €	(419 557) €	(427 948) €	(436 507) €	(445 237) €	(454 142) €	(463 225) €	(472 490) €	(481 939) €	(491 578) €
[2.2] Asset Management (inc. commercial and organizatonal management)	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €
[3] Net Operating Income (NOI)	**26 510 710 €**	**27 050 925 €**	**27 601 943 €**	**28 163 982 €**	**28 737 262 €**	**29 322 007 €**	**29 918 447 €**	**30 526 816 €**	**31 147 352 €**	**31 780 299 €**
Total Depreciations	(13 084 915) €	(13 084 915) €	(13 084 915) €	(13 084 915) €	(14 030 416) €	(14 030 416) €	(14 030 416) €	(14 030 416) €	(14 030 416) €	(14 030 416) €
[4] Earnings Before Interest and Taxes (EBIT)	**13 425 796 €**	**13 966 010 €**	**14 517 028 €**	**15 079 067 €**	**14 706 846 €**	**15 291 591 €**	**15 888 031 €**	**16 496 400 €**	**17 116 936 €**	**17 749 884 €**
*Taxes***	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[5] Net Operating Profit After Taxes (NOPAT)	**13 425 796 €**	**13 966 010 €**	**14 517 028 €**	**15 079 067 €**	**14 706 846 €**	**15 291 591 €**	**15 888 031 €**	**16 496 400 €**	**17 116 936 €**	**17 749 884 €**
Δ Working Capital	4 524 182 €	4 614 666 €	4 706 959 €	4 713 281 €	4 897 120 €	4 995 063 €	5 094 964 €	5 196 863 €	5 300 800 €	5 406 816 €
Total Depreciations	13 084 915 €	13 084 915 €	13 084 915 €	13 084 915 €	14 030 416 €	14 030 416 €	14 030 416 €	14 030 416 €	14 030 416 €	14 030 416 €
[6] Capital Expenditures (CAPEX)	**- €**	**- €**	**- €**	**(52 629 680) €**	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**
[6.1] Land	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.1.1] Puchase Price	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.1.2] Real Estate Transfer Taxes (RETT)	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.1.3] Other Costs	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.2] Construction	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.3] Recurrent Rehabiliations	- €	- €	- €	(52 629 680) €	- €	- €	- €	- €	- €	- €
[7] Exit	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**	**- €**
[7.1] Terminal Value	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[7.2] Costs	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8] Free Cashflow to the Firm (FCFF) or Unlevered Cashflow	**21 986 528 €**	**22 436 259 €**	**22 894 984 €**	**(29 178 979) €**	**23 840 142 €**	**24 326 944 €**	**24 823 483 €**	**25 329 953 €**	**25 846 552 €**	**26 373 483 €**
[8.1] Debt Drawdown	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8.2] Interest	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8.3] Amortization	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8.4] Debt Repayment	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[9] Free Cashflow to Equity (FCFE) or Levered Cashflow	**21 986 528 €**	**22 436 259 €**	**22 894 984 €**	**(29 178 979) €**	**23 840 142 €**	**24 326 944 €**	**24 823 483 €**	**25 329 953 €**	**25 846 552 €**	**26 373 483 €**
Acc. Free Cashflow to the Firm (FCFF) or Acc. Unlevered Cashflow	(135 166 018) €	(112 729 759) €	(89 834 774) €	(119 013 753) €	(95 173 612) €	(70 846 667) €	(46 023 184) €	(20 693 231) €	5 153 321 €	31 526 804 €
Acc. Free Cashflow to Equity (FCFE) or Acc. Levered Cashflow	(135 166 018) €	(112 729 759) €	(89 834 774) €	(119 013 753) €	(95 173 612) €	(70 846 667) €	(46 023 184) €	(20 693 231) €	5 153 321 €	31 526 804 €

PROJECT - Benfica Project - ANNUALLY CASH-FLOWS

All financials in €

Financial Item / Date	Mar/01	Mar/02	Mar/03	Mar/04	Mar/05	Mar/06	Mar/07	Mar/08	Mar/09	Mar/10	Mar/11
[1] Operating Income	**33 427 315 €**	**34 095 861 €**	**34 777 779 €**	**35 473 334 €**	**36 182 801 €**	**36 906 457 €**	**37 644 586 €**	**38 397 478 €**	**39 165 427 €**	**39 948 736 €**	**40 747 711 €**
[1.1] Housing (Market Rents)	9 645 771 €	9 838 687 €	10 035 460 €	10 236 169 €	10 440 893 €	10 649 711 €	10 862 705 €	11 079 959 €	11 301 558 €	11 527 589 €	11 758 141 €
[1.2] Housing (Affordable Rents)	12 022 475 €	12 262 924 €	12 508 183 €	12 758 346 €	13 013 513 €	13 273 783 €	13 539 259 €	13 810 044 €	14 086 245 €	14 367 970 €	14 655 330 €
[1.3] Commercial	8 941 675 €	9 120 508 €	9 302 919 €	9 488 977 €	9 678 756 €	9 872 332 €	10 069 778 €	10 271 174 €	10 476 597 €	10 686 129 €	10 899 852 €
[1.4] Parking	2 817 394 €	2 873 742 €	2 931 217 €	2 989 841 €	3 049 638 €	3 110 631 €	3 172 844 €	3 236 301 €	3 301 027 €	3 367 047 €	3 434 388 €
[2] Operating Expenditures (OPEX)	**(1 001 410) €**	**(1 011 438) €**	**(1 021 667) €**	**(1 032 100) €**	**(1 042 742) €**	**(1 053 597) €**	**(1 064 669) €**	**(1 075 962) €**	**(1 087 481) €**	**(1 099 231) €**	**(1 111 216) €**
[2.1] Maintenance	(501 410) €	(511 438) €	(521 667) €	(532 100) €	(542 742) €	(553 597) €	(564 669) €	(575 962) €	(587 481) €	(599 231) €	(611 216) €
[2.2] Asset Management (inc. commercial and organizatonal management)	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €	(500 000) €
[3] Net Operating Income (NOI)	**32 425 905 €**	**33 084 423 €**	**33 756 112 €**	**34 441 234 €**	**35 140 059 €**	**35 852 860 €**	**36 579 917 €**	**37 321 516 €**	**38 077 946 €**	**38 849 505 €**	**39 636 495 €**
Total Depreciations	(14 030 416) €	(14 030 416) €	(14 030 416) €	(14 030 416) €	(15 182 976) €	(15 182 976) €	(15 182 976) €	(15 182 976) €	(15 182 976) €	(15 182 976) €	(15 182 976) €
[4] Earnings Before Interest and Taxes (EBIT)	**18 395 490 €**	**19 054 008 €**	**19 725 696 €**	**20 410 818 €**	**19 957 082 €**	**20 669 884 €**	**21 396 941 €**	**22 138 539 €**	**22 894 969 €**	**23 666 528 €**	**24 453 518 €**
*Taxes***	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[5] Net Operating Profit After Taxes (NOPAT)	**18 395 490 €**	**19 054 008 €**	**19 725 696 €**	**20 410 818 €**	**19 957 082 €**	**20 669 884 €**	**21 396 941 €**	**22 138 539 €**	**22 894 969 €**	**23 666 528 €**	**24 453 518 €**
Δ Working Capital	5 514 953 €	5 625 252 €	5 737 757 €	5 745 463 €	5 969 562 €	6 088 953 €	6 210 732 €	6 334 947 €	6 461 646 €	6 590 879 €	6 722 696 €
Total Depreciations	14 030 416 €	14 030 416 €	14 030 416 €	14 030 416 €	15 182 976 €	15 182 976 €	15 182 976 €	15 182 976 €	15 182 976 €	15 182 976 €	15 182 976 €
[6] Capital Expenditures (CAPEX)	- €	- €	- €	**(64 155 286) €**	- €	- €	- €	- €	- €	- €	- €
[6.1] Land	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.1.1] Puchase Price	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.1.2] Real Estate Transfer Taxes (RETT)	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.1.3] Other Costs	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.2] Construction	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[6.3] Recurrent Rehabiliations	- €	- €	- €	(64 155 286) €	- €	- €	- €	- €	- €	- €	- €
[7] Exit	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €	**105 807 864 €**
[7.1] Terminal Value	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €	105 807 864 €
[7.2] Costs	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8] Free Cashflow to the Firm (FCFF) or Unlevered Cashflow	**26 910 953 €**	**27 459 172 €**	**28 018 355 €**	**(35 459 515) €**	**29 170 497 €**	**29 763 907 €**	**30 369 185 €**	**30 986 568 €**	**31 616 300 €**	**32 258 626 €**	**138 721 662 €**
[8.1] Debt Drawdown	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8.2] Interest	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8.3] Amortization	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[8.4] Debt Repayment	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €	- €
[9] Free Cashflow to Equity (FCFE) or Levered Cashflow	**26 910 953 €**	**27 459 172 €**	**28 018 355 €**	**(35 459 515) €**	**29 170 497 €**	**29 763 907 €**	**30 369 185 €**	**30 986 568 €**	**31 616 300 €**	**32 258 626 €**	**138 721 662 €**
Acc. Free Cashflow to the Firm (FCFF) or Acc. Unlevered Cashflow	58 437 757 €	85 896 928 €	113 915 284 €	78 455 768 €	107 626 265 €	137 390 172 €	167 759 357 €	198 745 925 €	230 362 225 €	262 620 851 €	401 342 513 €
Acc. Free Cashflow to Equity (FCFE) or Acc. Levered Cashflow	58 437 757 €	85 896 928 €	113 915 284 €	78 455 768 €	107 626 265 €	137 390 172 €	167 759 357 €	198 745 925 €	230 362 225 €	262 620 851 €	401 342 513 €

Appendix AI – *Debt Structure.* Source: Self elaboration

PROJECT - Benfica Project - Debt Structure

All financials in €

Debt Amount

Purchase Debt		- €
Construction Debt		495 799 173 €
	Total	495 799 173 €

Appendix AJ – *Financial Metrics.* Source: Self elaboration

PROJECT - Benfica Project - Financial Metrics

All financial metrics in € or %, based on annual cashflows

Levered Cash-Flows	*Projeto Benfica Value*
Net Present Vaue (NPV)	(579 120 187) €
Internal Rate of Return (IRR)	0.72%
Enterprise Value (EV)	(579 120 187) €
Payback Period (in years)	85

Unevered Cash-Flows	*Projeto Benfica Value*
Net Present Vaue (NPV)	(579 120 187) €
Internal Rate of Return (IRR)	0.72%
Equity Value (EV)	(579 120 187) €
Equity Multiple (only Land Purchase)*	117
Equity Multiple (Land Purchase and Construction)**	2
Payback Period (only Land Purchase)*	No Payback Period
Payback Period (Land Purchase and Construction)**	No Payback Period

*Both metrics consider only the equity invested to purchase the land (t=0)
**Both metrics consider only the equity invested to purchase the land and constructions costs (from t=0 to t=3, in years)

Note: Payback** - It happens when and if there is a exit. Otherwise, it never happens

Financial Metrics	*Benchamrk or Target Value*
IRR	4.85%
Payback Period	< 90 years*

*Note: "The payback period should be as short as possible. Taking into account the expiration of the concession contract, the payback period is expected to be considerably shorter than 90 years, so that all other financial metrics are also attractive."

Appendix AK – *Goal Seek General.* Source: Self elaboration

Goal Seek -> General	Break-even	Original Value	Break-even point/Original	Margin of Error	Safety Margin
Revenues Multiplier (Housing)	**6.23**	1	622.55%	**-522.55%**	-83.94%
CAPEX Multiplier (Construction)	**0.16**	1	16.41%	**83.59%**	509.23%
Discount Rate	**0.72%**	4.85%	14.80%	**85.20%**	575.90%

Appendix AL – *Goal Seek Worst Scenario.* Source: Self elaboration

Goal Seek -> Rents - Scenario 1	Break-even	Original Value	(Break-even)/Original	Margin of Error	Safety Margin
Weighted Average Free-Market Rent	11 093 €	859 €	1291.74%	**-1191.74%**	-92.26%

Appendix AM – *Goal Seek Best Scenario.* Source: Self elaboration

Goal Seek -> Rents - Scenario 3	Break-even	Original Value	(Break-even)/Original	Margin of Error	Safety Margin
Weighted Average Free-Market Rent	1 321 €	859 €	153.82%	**-53.82%**	-34.99%
Weighted Average Affordable Rent	1 080 €	535 €	202.01%	**-102.01%**	-50.50%

Appendix AN – *Sensitivity Analysis Capex and Revenue.* Source: Self elaboration

Revenues (Housing)	CAPEX (Construction)										
	0,20	0,40	0,60	0,80	1,00	1,20	1,40	1,60	1,80		
(579 120 187) €											
0,5	(80 257 337) €	(218 826 210) €	(357 395 084) €	(495 963 958) €	(634 532 832) €	(773 101 706) €	(911 670 579) €	(1 050 239 453) €	(1 188 808 327) €		
1	(24 844 692) €	(163 413 566) €	(301 982 440) €	(440 551 314) €	(579 120 187) €	(717 689 061) €	(856 257 935) €	(994 826 809) €	(1 133 395 683) €		
1,5	30 567 952 €	(108 000 922) €	(246 569 795) €	(385 138 669) €	(523 707 543) €	(662 276 417) €	(800 845 291) €	(939 414 164) €	(1 077 983 038) €		
2	85 980 596 €	(52 588 277) €	(191 157 151) €	(329 726 025) €	(468 294 899) €	(606 863 772) €	(745 432 646) €	(884 001 520) €	(1 022 570 394) €		
2,5	141 393 241 €	2 824 367 €	(135 744 507) €	(274 313 381) €	(412 882 254) €	(551 451 128) €	(690 020 002) €	(828 588 876) €	(967 157 749) €		
3	196 805 885 €	58 237 011 €	(80 331 862) €	(218 900 736) €	(357 469 610) €	(496 038 484) €	(634 607 357) €	(773 176 231) €	(911 745 105) €		
3,5	252 218 530 €	113 649 656 €	(24 919 218) €	(163 488 092) €	(302 056 966) €	(440 625 839) €	(579 194 713) €	(717 763 587) €	(856 332 461) €		
4	307 631 174 €	169 062 300 €	30 493 426 €	(108 075 447) €	(246 644 321) €	(385 213 195) €	(523 782 069) €	(662 350 943) €	(800 919 816) €		
4,5	363 043 818 €	224 474 945 €	85 906 071 €	(52 662 803) €	(191 231 677) €	(329 800 551) €	(468 369 424) €	(606 938 298) €	(745 507 172) €		

Appendix AO – *Sensitivity Analysis Cost of Equity and Revenue.* Source: Self elaboration

Revenues (Housing)	0,97%	1,94%	2,91%	3,88%	4,85%	5,82%	6,79%	7,76%	8,73%
(579 120 187) €									
0,5	(366 195 873) €	(513 860 438) €	(585 478 228) €	(619 585 784) €	(634 532 823) €	(639 331 402) €	(638 860 179) €	(634 631 848) €	(628 867 328) €
1	(98 359 609) €	(348 381 172) €	(476 801 112) €	(543 963 800) €	**(579 120 187) €**	(596 898 490) €	(604 866 287) €	(607 082 753) €	(605 809 031) €
1,5	169 476 654 €	(182 901 906) €	(368 121 996) €	(468 341 815) €	(523 707 543) €	(554 465 577) €	(571 172 395) €	(579 533 659) €	(582 750 734) €
2	437 312 917 €	(17 422 640) €	(259 446 880) €	(392 719 831) €	(468 294 889) €	(512 032 665) €	(537 478 502) €	(551 984 565) €	(559 692 436) €
2,5	705 149 180 €	148 056 626 €	(150 769 764) €	(317 097 847) €	(412 882 254) €	(469 599 753) €	(503 784 610) €	(524 435 470) €	(536 634 139) €
3	972 985 443 €	313 535 892 €	(42 092 648) €	(241 475 662) €	(357 469 610) €	(427 166 840) €	(470 090 718) €	(496 886 376) €	(513 575 841) €
3,5	1 240 821 706 €	479 015 157 €	66 584 468 €	(165 853 878) €	(302 056 960) €	(384 733 928) €	(436 396 826) €	(469 337 281) €	(490 517 544) €
4	1 508 657 970 €	644 494 423 €	175 261 584 €	(90 231 893) €	(246 644 321) €	(342 301 015) €	(402 702 934) €	(441 788 187) €	(467 459 246) €
4,5	1 776 494 233 €	809 973 689 €	283 938 700 €	(14 609 909) €	(191 231 677) €	(299 868 103) €	(369 009 042) €	(414 239 092) €	(444 400 949) €

Discount Rate