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Master in Business Administration (MBA)

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Evaluating ESG Strategy and Performance

in Real Estate Development:

A Case Study of Lamda Development S.A. in Greece

Lazaros Arbiliias

Supervisor: Konstantinos Kostopoulos

Patras, Greece, May 2026

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A Case Study of Lamda Development S.A. in Greece

Lazaros Arbiliias

Supervising Committee

Supervisor:
Konstantinos Kostopoulos
University of Piraeus

Co-Supervisor:
Ioannis Pollalis
University of Piraeus

Patras, Greece, May 2026

Abstract

This dissertation investigates the implementation of environmental, social and governance (ESG) principles in the strategy, operations and performance of a leading real estate developer, by drawing on an in-depth case study of Lamda Development S.A. and its prestigious Ellinikon large-scale real estate urban regeneration project in Greece. Although there is extensive research evidence exploring the relation between ESG and corporate financial performance, there is a significant knowledge gap in qualitative terms in relation to the day-to-day practices of ESG implementation in large real estate development. This study therefore focuses on addressing this significant knowledge gap in the under-researched Southern European context. The study uses a mixed methods approach by conducting four in-depth, semi-structured interviews with mid to senior Lamda staff, from a variety of functions including sustainability, construction, and tenant co-ordination. The interviews are supported and triangulated by a comprehensive documentary analysis of the company's 2025 Annual Financial Report and Sustainability Statement as well as various earlier Lamda corporate publications.

The report shows how ESG is truly integrated into Lamda's corporate strategy and governance, and is not treated as an add-on reporting function. Lamda operates a layered governance model and applies a full set of international standards (CSRD, ESRS, EU Taxonomy, SBTi, LEED, GRESB, ISO management systems) in order to achieve its ESG ambitions. These ambitions are translated into tangible results, including a 31,4% year-on-year reduction in market-based greenhouse gas emissions and substantial alignment with the EU Taxonomy, with 73,25% of Group turnover and 66,52% of capital expenditure classified as Taxonomy-aligned in 2025. Realised benefits include access to green and sustainability-linked capital and debt, operational savings, mitigation of regulatory and reputational risk, and stronger relationships with all stakeholders. The report highlights the main challenges faced by Lamda in addressing ESG across its value chain, including measuring Scope 3 emissions, the cost premium associated with sustainable specifications, and also managing customer expectations.

The case study provides unique insights into the complex challenges of city-scale urban regeneration over a multi-decade timeframe. The dissertation contributes Southern European experience to the largely North European researches on sustainable urban regenerations. The study is expected to be of practical use to real estate developers, investors

and public sector officials seeking to implement ESG driven value creation in large-scale real estate development projects with long investment horizons. It will also point to future research avenues on the topics addressed in the dissertation.

Keywords

ESG; real estate development; sustainability strategy; The Ellinikon; Lamda Development; case study

Αξιολόγηση της Στρατηγικής και της Απόδοσης ESG στην Ανάπτυξη Ακινήτων:

Μελέτη Περίπτωσης της Lamda Development A.E. στην Ελλάδα

Λάζαρος Αρμπιλιάς

Περίληψη

Η παρούσα διπλωματική εργασία μελετά τον τρόπο με τον οποίο οι περιβαλλοντικές, κοινωνικές και διακυβερνητικές (ESG) αρχές ενσωματώνονται στη στρατηγική, τις λειτουργίες και την απόδοση ενός κορυφαίου ομίλου Ανάπτυξης, Επένδυσης και Διαχείρισης Ακινήτων στην Ελλάδα μέσω μιας εις βάθος μελέτης περίπτωσης της Lamda Development S.A. και του εμβληματικού έργου αστικής ανάπλασης του Ελληνικού στην χώρα μας. Παρά την εκτεταμένη ακαδημαϊκή βιβλιογραφία σχετικά με την Περιβαλλοντική, Κοινωνική και Εταιρική Διακυβέρνηση (ESG) και την εταιρική οικονομική απόδοση που επιφέρει, συγκριτικά ελάχιστη ποιοτική έρευνα έχει διεξαχθεί για τον τρόπο με τον οποίο η ESG εφαρμόζεται στην πράξη σε μεγάλης κλίμακας ανάπτυξη ακινήτων, ιδίως στις αγορές της Νότιας Ευρώπης. Η παρούσα μελέτη αντιμετωπίζει αυτό το κενό συνδυάζοντας τέσσερις συνεντεύξεις με ανώτερα στελέχη σε λειτουργίες βιωσιμότητας, κατασκευών και συντονισμού ενοικιαστών με μια συστηματική ανάλυση τεκμηρίωσης της Ετήσιας Οικονομικής Έκθεσης και της Δήλωσης Βιωσιμότητας της Lamda για το 2025, υποστηριζόμενη και από προηγούμενες εταιρικές δημοσιεύσεις.

Τα ευρήματα δείχνουν ότι η ESG στη Lamda είναι πραγματικά ενσωματωμένη στην εταιρική στρατηγική και διακυβέρνηση και δεν αντιμετωπίζεται ως μια παράπλευρη άσκηση αποτελούμενη από απλές καταγραφές που συνοψίζονται σε αναφορές. Ο Όμιλος εφαρμόζει μια πολυεπίπεδη αρχιτεκτονική διακυβέρνησης χρησιμοποιώντας διεθνή πρότυπα (CSRD, ESRS, Ταξινόμηση EE, SBTi, LEED, GRESB, συστήματα διαχείρισης ISO) και έχει μετατρέψει την ESG σε μετρήσιμα αποτελέσματα, συμπεριλαμβανομένης μιας μείωσης κατά 31,4% σε ετήσια βάση των εκπομπών αερίων του θερμοκηπίου που

βασίζονται στην ουσιαστική ευθυγράμμιση με την Ταξινόμηση ΕΕ. Τα απτά οφέλη περιλαμβάνουν πρόσβαση σε πράσινη και συνδεδεμένη με τη βιωσιμότητα χρηματοδότηση, εξοικονόμηση λειτουργικού κόστους, μείωση των κινδύνων κανονιστικών πλαισίων και φήμης αλλά και ισχυρότερες σχέσεις με όλα τα ενδιαφερόμενα μέρη. Οι κύριες προκλήσεις που εντοπίστηκαν αφορούν τον συντονισμό σε όλη την αλυσίδα αξίας του οργανισμού, τη μέτρηση Scope 3, το επαυξημένο κόστος των βιώσιμων προδιαγραφών και τη διαχείριση των προσδοκιών των πελατών.

Η περίπτωση αναδεικνύει τις ιδιαίτερες απαιτήσεις της αστικής ανάπλασης σε κλίμακα πόλης/δήμου, με ορίζοντα πολλών δεκαετιών, και συνεισφέρει εμπειρικά στοιχεία από τη Νότια Ευρώπη σε μια βιβλιογραφία που κυριαρχείται από βορειοευρωπαϊκές περιπτώσεις. Η εργασία αυτή προσφέρει πρακτικές γνώσεις για κατασκευαστές ακινήτων, επενδυτές και υπεύθυνους χάραξης πολιτικής που ασχολούνται με την αποτελεσματική εφαρμογή ESG σε μεγάλης κλίμακας, μακροπρόθεσμα αναπτυξιακά έργα και προσδιορίζει κατευθύνσεις για μελλοντική έρευνα.

Λέξεις – Κλειδιά

ESG, ανάπτυξη ακινήτων, στρατηγική βιωσιμότητας, Ελληνικό, Lamda Development, μελέτη περίπτωσης

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List of Abbreviations & Acronyms

ATHEX	Athens Stock Exchange
BoD	Board of Directors
BREEAM	Building Research Establishment Environmental Assessment Method
CapEx	Capital Expenditure
CDP	Carbon Disclosure Project
CSR	Corporate Social Responsibility
CSRD	Corporate Sustainability Reporting Directive
DNSH	Do No Significant Harm
EBITDA	Earnings Before Interest, Taxes, Depreciation and Amortisation
EFrag	European Financial Reporting Advisory Group
EPBD	Energy Performance of Buildings Directive
EPC	Energy Performance Certificate
ESG	Environmental, Social and Governance
ESRS	European Sustainability Reporting Standards
EU	European Union
GHG	Greenhouse Gas
GRESB	Global Real Estate Sustainability Benchmark
GRI	Global Reporting Initiative
GSIA	Global Sustainable Investment Alliance
HVAC	Heating, Ventilation and Air Conditioning
ICMA	International Capital Market Association
IFRS	International Financial Reporting Standards
ISO	International Organization for Standardization
ISS ESG	Institutional Shareholder Services ESG
KENAK	Greek Building Energy Performance Regulation (Κανονισμός Ενεργειακής Απόδοσης Κτιρίων)

KPI	Key Performance Indicator
LEED	Leadership in Energy and Environmental Design
MW	Megawatt
NGO	Non-Governmental Organisation
NZEB	Nearly Zero-Energy Building
OpEx	Operational Expenditure
PMC	Project Management Consultant
RQ	Research Question
RRF	Recovery and Resilience Facility
SASB	Sustainability Accounting Standards Board
SBTi	Science Based Targets initiative
SDC	Sustainable Development Committee
SDG	Sustainable Development Goal (UN SDGs)
SFDR	Sustainable Finance Disclosure Regulation
SITES	Sustainable SITES Initiative
TCFD	Task Force on Climate-related Financial Disclosures
UN	United Nations
UNEP	United Nations Environment Programme
WELL	WELL Building Standard
WGBC	World Green Building Council

1. Introduction

1.1 Background

The real estate and construction sector is one of the world's largest industries with massive implications. At the same time, it is a gigantic polluter and contributor to climate change, by wasting energy and throwing away tonnes of materials. In the last decade, Environmental, Social and Governance (ESG) factors have emerged from niche to mainstream influencers on real estate companies' financing, regulation and valuations. As we roll into the third decade of the 21st century, in Europe major new sustainability obligations are to be faced by real estate property developers, owners and users, thanks to the Corporate Sustainability Reporting Directive (CSRD), the EU Taxonomy and the European Green Deal.

This report analyses how ESG considerations are increasingly impacting the manner in which businesses and investors approach opportunities in Greece and Southeastern Europe. It examines how Lamda Development S.A., the largest real estate developer in Greece and one of the largest across Southeastern Europe, is integrating sustainability in its overall corporate strategy and how “*The Ellinikon*”, one of the largest urban regeneration projects under development in Europe, will address changing sustainability practices, technologies and investor and stakeholder expectations over several decades.

1.2 Research Problem and Rationale

Although there is a significant amount of research on the relationship between ESG characteristics and the financial performance of the corporate, there is a qualitative research gap regarding the implementation of ESG by large real-estate developers. Most of the current research focuses on asset-management practices of companies operating in Anglo-Saxon and Northern European markets. Practices in the development division of real-estate companies in Southern Europe have not been explored regarding issues such as embodied carbon, supply-chain coordination, and stakeholder engagement during the development

phase. The research stream is particularly underrepresented in the context of Greece, despite the fact that Greek companies operate under the same EU legislative framework as their Northern European counterparts, albeit in a significantly more challenging domestic institutional environment.

There is a notable absence in current literature on ESG strategies and their outcomes. This dissertation addresses this “knowledge gap” by presenting a qualitative case study of The Ellinikon, undertaken by The Lamda Development. The motivation for this study stems primarily from the author’s professional involvement in the case study. The author is part of the Project Management Consultant team for the construction of the new Riviera Galleria Mall at The Ellinikon, by Lamda Development. This link to the case was vital in establishing relationships with relevant stakeholders and in gaining access to documents and primary data.

1.3 Research Aim and Objectives

The primary goal of this dissertation is to examine the integration of ESG strategy and performance throughout the real estate value chain of Lamda Development, focusing on The Ellinikon Project.

- An assessment of the degree to which ESG considerations are embedded within Lamda’s broader business model, its organisational operating practises and corporate governance arrangements.
- Identification of the benefits that Lamda will derive from incorporating ESG considerations into its investment approach, i.e. financial benefits, ESG risks management benefits and stakeholders’ benefits.
- to illustrate examples of the issues organisations face in relation to the implementation of ESG and the ways in which they deal with these difficulties.
- What are the innovations in applying ESG to a long-term development mega-project like The Ellinikon, within the local and global regulatory framework at the national and EU level.

1.4 Research Questions

Four Research Questions (RQ) guide the present study:

- RQ1: How has Lamda Development integrated ESG into its corporate strategy and operations?
- RQ2: What benefits has Lamda Development realised through ESG integration?
- RQ3: What challenges has Lamda Development encountered in ESG implementation, and how have these been addressed?
- RQ4: What are the ESG characteristics for large-scale real estate development projects such as The Ellinikon?

1.5 Dissertation Structure

This dissertation is divided into five chapters. Chapter 1 outlines the study's topic, formulates the research problem and research questions. Chapter 2 reports the relevant academic sources found on ESG criteria, sustainable real estate, current European regulatory environment on sustainable development and highlights the research gap that this research study is attempting to fill. Chapter 3 outlines the case study settings, further elaborates on Lamda Development, The Ellinikon project and elaborates on the ESG framework and related outcomes. Chapter 4 elaborates on the research methodology followed by this study, the chosen qualitative single-case embedded research design, the four semi-structured in-depth interviews conducted with key stakeholders and the methodology followed for the documentary analysis and finally highlights the ethical considerations followed in the research process. Chapter 5 reports the results for the case study in relation to the four research questions, it is discussed in the light of the theoretical and empirical literature, limitations of the study are recognised, the contributions of the research are outlined, guidelines for managers, conclusions are reached and finally future research avenues are proposed.

2. Theoretical Framework and Literature Review

2.1 ESG Definitions and Frameworks

2.1.1 The Evolution and Definition of ESG

The Environmental Social and Governance (ESG) criteria serve as a vital system which helps organizations assess their sustainability performance and corporate responsibility. The UN Global Compact introduced the term "ESG" with their 2004 report "Who Cares Wins" which established a new method for sustainability factor integration in business operations and investment decisions (UN Global Compact, 2004). Businesses now use corporate social responsibility as their primary business strategy to handle risks because this approach has evolved their social duty management (Gillan et al., 2021).

ESG represents a set of standards which organizations use to evaluate their operations through three connected evaluation areas. The Environmental pillar assesses how businesses affect natural ecosystems through their activities which produce climate change effects and deplete resources and generate waste and pollution. The Social pillar focuses on stakeholder relationships through its four elements which include labor practices and community engagement and human rights and diversity. The Governance pillar studies corporate leadership operations through its board organization and executive payment systems and its dedication to business ethics and open operations (Eccles & Strohle, 2018).

The ESG movement emerged when different elements converged to create a single direction for the movement. The combination of investor requests for non-financial risk evaluation and European Union regulatory enforcement and climate risk understanding and corporate responsibility demands from stakeholders resulted in the creation of ESG (Krueger et al., 2020). ESG integration through ESG focuses on materiality because it concentrates on sustainability matters which affect business financial performance and sustainable value creation (Khan et al., 2016).

Research data from thousands of studies demonstrates that ESG performance generates superior financial outcomes which proves sustainability factors have become vital for business success (Friede et al., 2015; Whelan et al., 2021).

However, many stakeholders actively work to oppose the current ESG landscape. Scientists actively study ESG standards to determine if these standards drive businesses toward genuine changes or function as sophisticated greenwashing mechanisms which let companies present false environmental credentials (Christensen et al., 2021; Marquis et al., 2016). Real estate development faces an ongoing battle between genuine environmental and social initiatives and deceptive sustainability programs because developers require large financial resources to establish enduring environmental and social benefits while they need to fulfill their ongoing financial obligations.

2.1.2 The Three Pillars of ESG

Environmental Pillar

Organizations need to manage their resources' consumption and their environmental impact to fulfill their environmental responsibilities. The main issues that organizations need to address include: greenhouse gas emissions and climate change mitigation efforts, the implementation of energy efficiency and renewable energy systems, water conservation practices and waste reduction strategies, circular economy principles, biodiversity protection and pollution prevention (Global Reporting Initiative [GRI], 2021).

Real estate development needs to focus on environmental matters since it is the sector that generate the most damage to the natural environment. Buildings account for approximately 40% of global carbon emissions and 35% of final energy consumption (United Nations Environment Programme [UNEP], 2022). So, the real estate industry has to demonstrate environmental stewardship through programs in order to achieve better results than the current "not-so-energy-efficient" operations used so far. The sector is also responsible for embodied carbon (aka upfront carbon) in construction materials i.e. the emissions generated during material extraction, manufacturing, and construction processes. The World Green Building Council (2019) shows that the real estate development sector generates 11% of worldwide greenhouse gas emissions, impacting all regions in the planet. Further

environmental priorities for real estate are: sustainable site selection through clever planning of land usage, water-saving design methods and water-saving landscaping, waste management during construction and protection of buildings from climate-related floodings and heat waves (Eichholtz et al., 2013).

Environmental performance verification comes from three major green building certification systems. These are: LEED (Leadership in Energy and Environmental Design), BREEAM (Building Research Establishment Environmental Assessment Method) and WELL Building Standard. Research indicates that buildings which obtain green certification get a significant better market performance through elevated rental and sale values while maintaining reduced operational costs and lower vacancy rates. This suggests that environmental performance translates to economic value (Fuerst & McAllister, 2011; Chegut et al., 2019).

Social Pillar

The social pillar contains the relationships between employees, customers, suppliers, and the community. This includes elements such as labor rights, workplace safety and diversity, employee health, supply chain integrity, human rights, community engagement, customer satisfaction, and data privacy (Sustainability Accounting Standards Board [SASB], 2023).

Social responsibility within the real estate industry has unique characteristics and affects sometimes on a large scale and in the short term. It can lead to the dispersion of existing residents or conversely an enhancement of their quality of life (Devine & Kok, 2015). For the development of quality real estate several social indicators are relevant for the different development stages. They are clustered in several categories. First of all affordable housing. Secondly the participation of the community in the planning process. There are many workers are involved in the construction process of real estate. Thirdly design and management of real estate for all users. Often heritage sites need to be protected as well as public spaces which create community.

Assessing social responsibility of companies in the real estate sector is even more complex than assessing their environmental responsibility, but the potential risks to a company's reputation and even to its projects by means of regulatory holds are enormous. Community

resistance to a project is a major risk for a company. Delays or even the denial of building permits can be the result and be prevented only through proactive community involvement. Social acceptance of a project and the achievement of the necessary regulatory milestones can be promoted by a company through its involvement with the community.

Governance Pillar

Governance of a corporation refers to the way in which it conducts and manages its business. Features of a corporation's governance include the board of directors, the independence and diversity of that board, a corporation's compensation package for its top most executives and the method in which that package is designed to maximize their performance and returns over the long term. It includes also the degree of transparency that a corporation exhibits by means of its financial reporting and by its adherence to business ethics and to measures designed to prevent corruption, the manner in which a corporation identifies, manages and mitigates risk and it also includes the manner in which a corporation deals with stakeholders of the corporation. (Bebchuk & Weisbach, 2010).

In real estate development, issues of governance may include the transparency of land transactions, ethical recruitment and selection of contractors, long-term management of assets beyond the immediate development phase, management of conflicts of interest in cases where developments involve various types of property, and accountability for any commitments made in the planning and approval phases about environmental impacts and social performance.

What need to be emphasized is that effective governance is a prerequisite for credible environmental and social performance. Without strong governance structures that ensure board oversight, accountability, and reporting, environmental and social initiatives may downgrade to symbolic commitments instead of actually and consistently executed practices (Ioannou & Serafeim, 2019). Evidence shows that companies with strong governance structures demonstrate impressive ESG performance across all dimensions. Governance seems to be an important precondition for successful sustainability integration (Eccles et al., 2014).

2.1.3 Major ESG Reporting Frameworks

The increase of ESG reporting frameworks comes from the market demand for sustainability disclosure but is also the result of the difficulty to create non-financial reporting standards that are harmonized across firms, sectors and geographic borders; all of which complicate ESG compliance for corporations and their stakeholders.

Global Reporting Initiative (GRI)

The GRI Standards are the most widely adopted standard for sustainability reporting. They are used by 10.000+ organizations in 100+ countries (GRI, 2021). GRI has a multi-stakeholder approach that emphasizes thorough disclosure of impacts on economy, environment, and society. It is based on the concept of double materiality: it takes into account how sustainability issues affect the organization and how the organization affects the environment and society. The framework is modular and consists of universal standards that organizations must comply with (GRI 2: General Disclosures, GRI 3: Material Topics) as well as topic-specific standards for the economic, environmental, and social dimensions of organizations.

GRI's strength is that it covers many sustainability themes, takes into account various stakeholders, and provides a framework for reporting that helps firms be transparent about the environmental and social impacts of their activities. Yet, some believe that the framework's criteria are too vague. This can result in reports that are not sufficiently targeted to specific sectors, and also too long, containing so much information that they end up being very difficult to read (Hahn & Kühnen, 2013). And, since firms are able to choose which topics to report on, its reports can also be boastful about successes and completely uninformative about the organization's failures.

Sustainability Accounting Standards Board (SASB)

SASB Standards cover sustainability information that is financially important to investors. SASB Standards identify industry-specific ESG issues that affect a company's financial performance in 77 industries (SASB, 2023). SASB developed its framework through industry research and input from experts and focuses on single materiality: sustainability

issues that impact a company's financial performance but not the company's impact on society. In the real estate sector, SASB considers important issues to be energy, water, climate, and tenant sustainability.

Because SASB standards are related to financial investors, they are more valuable to publicly traded companies who wish to connect sustainability reports with financial reports. The industry-focused nature of the standard allows for better intercompany comparisons. However, since SASB is a US-focused framework that considers only financial importance of sustainability issues, it may not be suitable for companies targeting stakeholders with broader-than-financial expectations or that operate in countries with different reporting requirements (Eccles & Strohle, 2018).

Task Force on Climate-related Financial Disclosures (TCFD)

TCFD gives recommendations about climate risk disclosure frameworks using four pillars: governance, strategy, risk management, and metrics/targets (TCFD, 2017). This initiative was developed by the Financial Stability Board responding to climate-related financial risks concerns. TCFD has become the leading standard for climate risk assessments among investors, regulators, and firms worldwide. The framework uses forward-looking scenario analysis in order to evaluate how well firms handle different global warming level scenarios.

TCFD's main strength is that it treats climate change as a financial risk, thus calling for board-level governance and strategic adjustments. Major banks across the world have committed to using TCFD, creating a momentum of support for climate risk reporting frameworks. However, since TCFD only addresses climate-related risks, other frameworks are additionally needed in order to have a complete ESG reporting.

Global Real Estate Sustainability Benchmark (GRESB)

GRESB is the industry-standard for assessing real estate ESG performance. Launched in 2009, it assesses over 6 trillion € in real estate globally each year. Assessments cover ESG management, policies, disclosure, risk management, and stakeholder engagement for environmental and social performance benchmarks. GRESB provides a standardized benchmarking framework for comparison within a firm or within a region (GRESB, 2023).

But it is primarily designed for operating rather than developing assets. Therefore, this raises specific challenges for development companies where construction impacts and longer timelines are important aspects of their business models.

2.2 Strategic Integration of ESG in Companies

2.2.1 Theoretical Perspectives on ESG Integration

Stakeholder Theory

Stakeholder theory states that firms' purpose is to create value for all their internal and external stakeholders, not just shareholders (Freeman, 2010). From this perspective, stakeholders include anyone who can provide value to the firm over its lifespan. In real estate development, stakeholders include investors, communities, employees and contractors, regulators, and tenants or buyers.

ESG frameworks can be used to simplify the task of managing a diverse set of stakeholders (Falkenbach et al., 2010). However, stakeholder theory has been criticised for not providing enough guidance on resolving conflicting stakeholder demands. The concept of materiality is the deciding basis for evaluating which stakeholders are more important than others (Khan et al., 2016). The idea of materiality is used since it focuses on the (ESG) issues that matter most to stakeholders or are the ones that significantly impact the performance of the firm.

Institutional Theory and Legitimacy

Institutional theory explains why organisations adopt similar practices, through adherence to social expectations and norms rather than rational decision-making (DiMaggio & Powell, 1983). Firms that operate in similar institutional environments tend to develop similar characteristics, a process called isomorphism, which arises through three mechanisms: coercive forces (regulations or investor demands), mimetic processes (adopting successful competitors), and normative influences (professional associations).

Coersive forces from institutional factors such as the EU sustainability reporting regulations and pressure from other investors who require companies to report on a broad set of ESG factors in order to invest in the company, have led to best practices for non-financial disclosure of sustainability information as established by professional associations of accountants and lawyers such as sustainability reports (Ioannou & Serafeim, 2012).

Legitimacy theory looks at organizations from the point of view of their pursuit of social legitimacy. This is achieved by organizations' activities being perceived as to be in line with the expectations of relevant stakeholders (Suchman, 1995). From this perspective, the adoption of ESG factors reflects a strategy of enhancing social legitimacy, which will enable firms to retain their social licence to operate.

Resource-Based View

A resource-based view of competitiveness states that firms get their competitive advantages from resources and capabilities that are: valuable, rare, difficult to replicate, and embedded in the organization (Barney, 1991). ESG capabilities have been identified as a source of strategic resources that can create competitive advantages (Hart, 1995). ESG capabilities that may affect the competitiveness of real estate firms include: green building skills; effective stakeholder engagement processes; and a strong reputation for sustainability efforts. With such capabilities, a real estate development business can gain access to sustainability-focused investment capital; attract and retain talented employees; avoid costly non-compliance with regulations; and develop a more valuable brand name.

2.2.2 ESG Integration Models

Companies integrate ESG strategies along a reactive to proactive continuum. On the reactive end of the continuum, companies have a compliance-only mindset that views ESG as a regulatory requirement that should demand minimal effort to achieve. These companies respond only on mandatory regulations when required and keep ESG efforts isolated in a sustainability department that is detached from the operational departments. ESG efforts are viewed and treated as a source of cost rather than an opportunity for value and profit (Eccles & Serafeim, 2013).

On the proactive end of the continuum, companies see ESG as part of their business strategy and competitive advantage. They ensure that all departments are integrated with an understanding of ESG efforts, invest significantly in their sustainability efforts, engage with stakeholders at multiple levels, and seek certifications and disclosures that go beyond the minimum requirements. The literature indicates that proactive companies show significantly better financial and sustainability outcomes than reactive companies (Ioannou & Serafeim, 2012).

An opportunistic approach lies between the reactive and proactive end of the continuum. This refers to an approach that actively seeks ESG integration but only when a clear business case can be made and not systematically integrate sustainability across the organization. An opportunistic approach may be a transitional phase of a company in integrating ESG efforts before fully integrating sustainability efforts across the organization.

Organizations structure ESG governance differently. Some have separate sustainability departments, which creates expertise but risks making the department too isolated and disconnected from business operations. Others incorporate it into existing departments, which creates integration but may lack sufficient expertise. The best compromise seems to be a combination of both having expert-level departments but also ensuring integration into the business units through the governance framework (Epstein & Buhovac, 2014).

At the board level, variations in ESG governance range from assigning responsibilities to existing audit or risk committees to establishing new sustainability committees focused only on ESG subjects. Research shows that boards with sustainability experts on them are more effective at guiding ESG performance (Eccles et al., 2014).

To establish a set of relevant ESG issues for a company, a materiality assessment -for ESG issues typically conducted as part of a company's sustainability reporting- is standard procedure (Khan et al., 2016). In such assessments, companies first identify a range of potential ESG issues and then assess their potential impact on stakeholders and the company's performance. Using a matrix, companies then determine the materiality of individual ESG issues and discuss results with management and the company's board of directors in order to secure their buy-in.

Double materiality recently has been introduced in EU regulations on sustainability disclosures. As opposed to materiality assessments commonly applied by companies, Double materiality not only looks into the sustainability issues' financial materiality, i.e. their impact on the company (financial materiality), but also at the impact the company's activities have on society and the environment (impact materiality). Thus, in addition to investors' needs, companies also have to consider the broader social effects of their actions.

2.3 ESG in the Real Estate Sector

2.3.1 Why Real Estate Matters for ESG

The real estate sector has certain distinctive ESG characteristics that differentiate it from the other sectors.

To start with, lifecycles of real estate assets are unusually long. Buildings last 50 to 100 years, meaning that design decisions will affect many generations to come (Eichholtz et al., 2013). The unusual lifecycle pattern of ownership and usage in this sector creates a variety of challenges.

Second, the environmental impact of the sector is significant. Buildings account for around 40% of global energy-related CO₂ emissions and use up around 35% of all (final use) energy that is consumed. The energy used in operation accounts for approximately 28% of global emissions; embodied carbon for buildings accounts for an additional 11% (World Green Building Council, 2019). And since operational energy needs are more and more determined and controlled by energy efficiency requirements, embodied carbon becomes (relatively) more important. The production of concrete and steel, for example, accounts for around 15% of global emissions, so material choices can have a significant impact (Huang et al., 2018).

Third, real estate developments are place-based and have strong connections to local communities. They alter the shape and character of urban areas, affecting property values, traffic flows, social cohesion and the “vibe” of a place. Furthermore, the social impacts of

developments extend beyond their immediate boundaries, they affect entire neighborhoods (Devine & Kok, 2015).

Fourth, real estate is highly vulnerable to physical climate risks such as flooding, rising sea levels, extreme temperatures and other natural disasters that directly threaten the value of physical assets. Climate adaptation and resilience issues are therefore basic financial issues that have to be faced, not just environmental ones (Bernstein et al., 2019).

Finally, real estate development involves a complex web of stakeholders with different and potentially conflicting views on ESG issues. Stakeholders include equity investors, debt financiers, regulators, local communities, environmental organizations, contractors, future tenants and government programs (Freeman, 2010)

2.3.2 Environmental Performance in Green Buildings

Research shows that green buildings have much greater environmental benefits than conventional buildings. It shows that certified green buildings have 25-30% reduction in energy consumption, 30-50% reduction in CO₂ emissions, and 40% reduction in water consumption compared to conventional ones (Eichholtz et al., 2013). These improvements come as result from a variety of factors such as better insulation, more efficient HVAC systems, LED lighting, low-flow water fixtures, and on-site renewable energy generation.

The problem of the "performance gap" (i.e. the difference between predicted and actual performance) is an issue that persists in the building industry. Buildings often experience a 20-50% reduction in energy consumption performance compared to predicted levels (de Wilde, 2014). The factors that cause this issue are related to changes in occupant behavior, poor commissioning of the building's systems, degradation of performance over time due to poor maintenance, and differences between predicted and actual operating conditions.

Certifications such as LEED, BREEAM, and WELL provide frameworks for sustainable design and can be used to guarantee that a building has high environmental performance. However, most of these certifications focus on predicting the actual performance of the building instead of actually measuring it. This means that there may be buildings that pass certification due to predicted performance that is never achieved in reality. Although there

are existing certifications (such as LEED for Existing Buildings) that certify actual operational performance, they only account for a small percentage of certified buildings.

2.3.3 Social Dimensions in Real Estate Development

In addition to environmental implications, real estate development has also many social implications. Real estate developments change the already built environment of cities and their social dynamics. Large developments can have both positive and negative effects on social dynamics if not well planned and executed (Devine & Kok, 2015).

Positive social effects of real estate development include jobs created during construction and for operations, facilities for the whole community, improved infrastructure, and enhanced quality of life due to better building and neighborhood design. Negative effects include a possible displacement of existing populations through gentrification (the process of higher-income people moving in), disruption of existing social structures, loss of affordable housing as neighborhoods improve, and increased traffic and infrastructure strain.

Social implications of real estate development can be managed through effective stakeholder engagement in project development and operations. Stakeholders should be consulted prior to development and during operations. Project managers should communicate their projects and their effects on local populations. Stakeholder input should be incorporated on the design and concerns should be able to be reported through established mechanisms. Research shows that projects with significant community engagement experience significantly less conflicts, obtain regulatory approvals faster, and create more positive social outcomes (Freeman, 2010).

Affordable housing presents a social challenge in real estate development. Affordable housing can be a challenge to develop as property values increase in neighborhoods that are being developed. A potential outcome of gentrification is the displacement of low-income individuals. Affordable housing requirements can be imposed on new developments in some areas and incentives can be provided to developers for including affordable housing units in their developments. Affordable housing can be incorporated into projects in a manner that

balances the requirements of project developers with the requirements of social projects that want to create inclusive communities.

2.3.4 Governance in Real Estate Companies

Governance in real estate extends beyond “typical” corporate-governance, and also involves project-governance that influences ESG outcomes.

At a corporate level, governance means the board has oversight of the ESG strategy, aligns executive compensation with sustainability performance, presents ESG information in a readable form, behaves ethically with no corruption, and is responsive to stakeholder requests (Bebchuk & Weisbach, 2010).

At a project level, it means that the purchase of land is transparent, contractors are selected in a fair way, construction workers are treated equally and work safely, and quality management ensures that what is built meets what was designed, and therefore ESG commitments made during the planning process are respected.

Real ESG integration comes as a result of strong governance and not just “greenwashing” (i.e., just pretending to be environmentally and socially responsible without actually taking real actions). Absent approval by the board, and accountability, though, what is presented as ESG integration can end up as a PR initiative that does not reflect reality (Ioannou & Serafeim, 2019). Numerous studies demonstrate that well-governed companies achieve substantial positive results in both the environmental and social dimensions, showing that governance is indeed the core of sustainability efforts (Eccles et al., 2014).

2.4 Benefits and Business Case for ESG in Real Estate

Establishing ESG’s value within the business serves to justify why firms spend resources and time to become more sustainable. ESG’s value creation processes involve several mechanisms through which value is created for the firm, though such value creation processes are context-dependent.

2.4.1 Financial Performance

The ESG-financial performance relationship has been extensively studied with generally positive results, although with some restrictions. Meta-analyses of hundreds of studies report that ESG performance is positively correlated with financial performance in around 60% of studies, negatively in less than 10%, and uncorrelated in the remainder 30% (Friede et al., 2015; Whelan et al., 2021). While the established methods for interpreting correlation studies suggest that successful companies must have more resources to devote to ESG, most evidence now suggests that ESG performance enhances financial performance through multiple pathways.

Many mechanisms describe the way through which ESG performance enhances financial performance. To start with, improvements in operational efficiency lead to reduced energy, water and other resource expenditures. The second is increased revenue from higher prices for sustainable products, higher demand from environmentally-conscious consumers, and access to new geographic markets. The third is reduced risk of regulatory violation, environmental disasters or other events that cause financial damage not only by fines but through bad reputation as well. The fourth is improved access to capital with favorable terms from investors who reward companies that perform well on ESG metrics. The fifth is enhanced talent pool from employees who prefer to work for companies with high sustainability credentials (Whelan et al., 2021).

In the real estate sector, numerous financial benefits have been documented. Certified green buildings show rental price premiums of 3-5% and sales price premiums of 5-10% relative to comparable non-certified buildings, although the size of the effect depends on factors such as location, building certification standard and type (Eichholtz et al., 2013; Fuerst & McAllister, 2011). The different effects of rental and sales price premiums may result from different factors. Tenants may value lower operational costs, improved indoor environmental quality, corporate sustainability goals that require space in green buildings, or the value of signaling that they occupy a green building. Investors value improved market positioning, reduced regulatory risks, and reduced capital expenditures for operations over time.

Higher-than-average occupancy rates for green buildings provide another financial benefit. Relative to conventional buildings, green buildings have between 1-4 percentage points higher occupancy rates that reduce the risk of vacancy and ensure stable income flows (Chegut et al., 2019). Higher-than-average occupancy rates for green buildings may result from factors such as tenant preferences for green buildings, higher quality buildings that tend to be green and favorable locations in urban areas with high demand for green buildings.

Finally, green buildings generate important revenue savings through lower operational costs. Green buildings achieve energy cost savings of 20-30% and water cost savings of 30-50% compared to comparable non-green buildings, which translates into significant enhancements to net operating income (Kats et al., 2003; UNEP, 2022). Savings of 20-30% on energy costs that amount to tens of thousands of euros per year may seem insignificant at first, but the savings compound over decades into an amount that may appear staggering. Consider a building with energy costs of 100.000€ per year that achieves a 25% saving through efficiency measures. In this case, the building generates an additional 25.000€ in savings each year, or 1.000.000€ in nominal terms over a 40-year lifespan (when energy costs are assumed not to inflate). However, we must always keep in mind that in order for green buildings to generate predicted savings, management and occupants must monitor performance and maintain efficient systems.

2.4.2 Risk Management

ESG integration enables companies to manage numerous risk categories that affect the performance of assets and their market valuation.

Physical climate risks directly affect values of real estate assets in areas exposed to flood damages, heatwaves, rising sea levels, and wildfires caused by climatic change. The ESG evaluation process helps identify applicable risk reduction measures for buildings, such as elevated construction heights in flood zones, enhanced ventilation systems for extreme heat, fire-resistant building materials in fire-prone regions, and stormwater management solutions (Bernstein et al., 2019). Climate-related extreme weather events have become more frequent and severe. Thus, it becomes increasingly relevant to assess physical risk as this affects the value of the buildings. Insurance costs for damaged properties in areas exposed to specific

climate-related threats have risen significantly. This leads to higher operational costs and lower returns from investments.

Transition risks are the ones associated with changes in policies, technologies and in market demand for low-carbon products and services over time. In some cases, these changes can affect the value of properties that are not energy efficient. While in the short term the costs of making a property more energy efficient may not deliver an acceptable return, in the longer term tenancies may only be granted to properties that have a “minimum rating” for energy efficiency and sustainability. Many of these transition risks can be managed by the incorporation of measures to identify and manage ESG risks in the property development process. This allows the developer to implement those measures which are expected to become mandatory, thereby avoiding potential loss of value in the future (TCFD, 2017).

Regulatory risks when referring to companies in relation to projects could be the risk of non-compliance with regulations and the resulting consequences. This could be in the form of fines and other adverse effects, for example delays to a project or in extreme cases its cancellation. There are also significant civil penalties for certain types of environmental breaches as well as potentially significant extra costs to complete any required remediation work. There are also social risks i.e. the effect of a company’s project on local communities. This could prevent a project from going ahead and cause short-term disruption to local communities. As has been seen before local communities can object to a company’s proposed development and express their concerns. On the other hand, local communities also have expectations that companies must address throughout the development process. The issues that these expectations create can hinder a development’s progress. Properties with already established ESG risk management systems monitor developments in this area continuously. The Community Relations Department can work out possible solutions in collaboration with the relevant communities. The Compliance Specialists then have to complete all required steps within the respective processes.

Reputational risks arise from the perceived performance of a property developer regarding environmental protection or social responsibility. Poor labor conditions in projects or building companies can limit project success. Environmental missteps, tenant complaints, greenwashing practices, or adverse media coverage can negatively affect a property

developer's business success. Stakeholders include investors and tenants, who have influence over business success. Significant damage to reputational assets can prevent developers from acquiring funds or expertise from reputable sources, which can affect their success or even lead to the demise of their business. Reputation damage also impacts share prices and relationships with regulatory departments. Investors may become less willing to invest in or provide loans to such developers. The company's specialist expertise, however, helps minimise adverse effects and enables a proactive response. Reputation damage can be lower by ensuring that property developments adhere to ESG risk management principles are upheld from the start of projects so that such damage does not occur later in their development (Freeman, 2010).

2.4.3 Access to Capital

Capital markets that recognize ESG value create financial advantages for companies that excel in sustainability. The growth of sustainable investing, which integrates ESG considerations into investment decisions, generates a substantial source of capital for ESG-performing companies. Sustainable investments totaled over 35 trillion USD in 2020, which is more than one-third of all invested capital (Global Sustainable Investment Alliance [GSIA], 2021).

Green bonds and sustainability-linked loans offer favorable pricing conditions to entities that comply with specified ESG requirements. Green bonds finance activities with environmental benefits. Sustainability-linked loans condition the entity's interest rate on achieving its sustainability objectives. Adhering to these terms offers a cost of capital advantage while also enhancing entities' sustainability credentials (Flammer, 2021). Green bonds are increasingly popular and a considerable portion of the bond issue market is reserved for real estate development projects.

Entities with acceptable levels of ESG performance are able to access these funds more readily than entities with inadequate levels of ESG performance. Access to these funds yields benefits in property acquisition, development funding, and a general cost of capital that is reduced. The access to these funds is conditional upon a range of requirements, however entities that obtain these credits must prepare sound reports on their ESG activity,

reports that must be externally validated, and they must present valid strategies for enhancing their sustainability credentials.

2.5 Challenges in ESG Implementation

Companies face significant hurdles in ESG implementation, which must be understood and addressed to develop solutions to overcome them.

2.5.1 Measurement and Standardization Issues

Despite the proliferation of ESG frameworks, the issue of non-uniformity presents significant challenges to firms and stakeholders. Different rating agencies assess firms using different methods, weightings and data sources. This leads to low correlation values between ESG ratings issued by different providers. Research indicates that the average correlation value between the ESG ratings of the major rating agencies is 0,54, compared to a perfect score of 0,99 awarded to credit ratings (Berg et al., 2022). This level of inconsistency creates a number of problems.

Firstly, firms face difficulties in determining which metrics to focus on, as different frameworks emphasize different aspects. A firm that excels according to one framework is likely to fail according to another. Secondly, investors searching for firms with high ESG ratings or wanting to construct an ESG-weighted portfolio encounter problems identifying comparable firms when their ratings show high variability. Thirdly, the inconsistency raises a question about what ESG ratings actually measure, whether they measure relative sustainability performance or whether they merely reflect compliance with certain frameworks.

Problems related to data availability and quality also present challenges to measurement. Many ESG metrics have no objective means of measuring social and governance aspects. How does one quantify “stakeholder engagement”? What level of board diversity is sufficient? In contrast, environmental metrics have a solid foundation of measurement practices. However, even metrics such as carbon emissions have its limitations. The

question of how to accurately estimate Scope 3 emissions, which represent indirect emissions associated with a firm's value chain, poses a challenge. Firms may lack the systems to gather data for measures such as supply chains or the behaviour of tenants in buildings.

Greenwashing (the use of communications that create a false impression of sustainability) remains a persistent problem (Marquis et al., 2016). Greenwashing takes several forms. It involves highlighting a firm's positive attributes while concealing its negative aspects (the hidden trade-off approach). It involves using labels that have no value or are unproven (false labels). It involves using vague undefined terms that give the impression of a product has certain eco-friendly qualities (vagueness). It involves making true but unimportant statements while downplaying the real impacts of a product (irrelevance).

Research has shown that greenwashing thrives under certain conditions: where there is little regulatory oversight, where consumers or investors have limited ability to verify claims, where there is intense competitive pressure to make greenwashing-related claims that attract customers or investors, and where it is costly for firms to behave sustainably (Marquis et al., 2016). The real estate sector's complexity, together with its long timeframes between marketing claims and impacts that can be objectively measured, creates conditions in which greenwashing thrives. A building that is marketed as green during its construction may well fail to achieve its predicted environmental impacts. However, this may only become apparent many years later.

Regulatory developments offer solutions to the problem of greenwashing. The EU Green Claims Directive proposal requires a form of substantiation and verification of environmental claims. However, enforcement challenges and difficulties in assessing claims regarding future performance (such as energy savings) limit the effectiveness of regulation. Self-regulation through certification bodies and rating agencies provides an additional layer of scrutiny, but conflicts of interest arise when companies pay for ratings or certifications, which compromises their objectivity.

2.5.2 Cost and Capability Barriers

Perceived and actual cost premiums for sustainable construction are the main barrier for developers seeking to incorporate ESG features, particularly for small developers or in cost-sensitive markets. An early wave of research into green building reported cost premiums of 10-20% for certified structures, driving reluctance to use the label (Kats et al., 2003). A more recent wave of research finds few or no cost premiums for basic green certifications, and a range of premiums for more advanced certifications and for new technologies (Chegut et al., 2019).

The elements of cost perception are complex. First, lifecycle operating costs receive less attention from developers and investors than do up-front construction costs. Second, real estate development is typically a collaborative activity involving many different individuals and organizations with potentially divergent views about the relevance of sustainability. Third, potential barriers exist in the form of “split incentives” that prevent landlords from seeing upgrades to building efficiency as a smart investment, since their return on these investments is linked to rent paid by tenants rather than property values (Wiley et al., 2010).

ESG implementation requires skills and competences that may not be currently evident in many real estate organizations. Green building design requires expertise in energy modeling, passive design strategies, sustainable materials, commissioning, and performance evaluation. Most architecture and engineering firms lack these skills. Stakeholder engagement also requires skills that differ from those used in conventional development activities. ESG reporting demands competence with multiple frameworks as well as data management capabilities. Internal controls for ensuring accuracy and quality of reported data must also be implemented.

Small companies in particular lack the skills and competences needed to implement green building technologies or report on their ESG performance. Large real estate companies are able to set up a dedicated sustainability department but small developers lack the resources to do the same and have to rely on external consultants or try to find staff with competences outside their existing skills sets. These moves create an uneven playing field within the real estate development industry (Strand, 2013).

2.5.3 Organizational and Cultural Barriers

Cultural resistance to change is another set of less visible barriers to integrating ESG into a company. The views of employees are often skeptical towards sustainability in companies and even view ESG as something for the regulatory bodies to deal with, or view it as just a ‘fashion’ that will eventually disappear. As long as a company is profitable and continues to grow and develop, then employees have little reason to support changes that could potentially reduce profits in the short-term. It is especially difficult to gain the support of long-term employees who have helped to develop current successful growth strategies and methods, and have a good understanding of how the company currently operates and makes profits.

Even when senior management are fully committed to implementing sustainability within a company’s operations, the company’s organizational structure and its compensation practices can prevent this from happening. If performance is measured using only a number of traditional financial measures such as sales, revenue and profit then employees are unlikely to pay much attention to any ESG issues which are not explicitly incentivized. This is particularly the case when the company’s sustainability goals are in conflict with its financial goals (for example the green features of a building which increase cost and extend the completion date of the building) and performance is measured and rewarded using only traditional financial measures.

Many organizations are resistant to change, especially when it means making modifications to established ways of doing business. Such organizations have well developed standard operating procedures, established supplier relationships, approved materials and design practices that have worked well in the past. Many companies are even reluctant to make minor changes to established practices and procedures. Employees often perceive changes that increase complexity, risk, etc. to require unnecessary effort and fail to see any personal benefit.

Change is in itself resistant to change. In order to change a company’s practices and decisions with respect to company management, senior management has to change its practices and decisions in support of sustainable practices in the company. Lower levels in the organization, such as employees and teams, have to be trained and equipped to work in

a sustainable manner. ESG issues have to be integrated into an employee's performance metrics and in the incentives that are granted to him or her. It is also positive to refer to examples of sustainable practices that are already being implemented in pilot projects within the company. However, it appears that many change management attempts are not bringing the desired results (Eccles & Serafeim, 2013).

This challenge has some specific characteristics especially in case of long business cycles and high investment needed as it is the case for the real estate development. Property developers are not keen to test new approaches as long as a single project is developed over several years and requires a high investment. Therefore, risk management in the real estate world is generally very conservative and does not support sustainability innovations. (Epstein & Buhovac, 2014).

2.5.4 Stakeholder Management Complexity

Real estate development has a variety of stakeholders, each with their own interests and priorities, and all with possibly conflicting interests. Investors who are to provide financing for the development have interests that are centered around acceptable financial returns and risk. Local communities have interests in social and environmental impacts on neighborhoods. Regulatory stakeholders have interests in ensuring compliance with reference to zoning, building and environmental regulations. Employees and contractors have interests in safe working conditions, fair remuneration and job security. Future occupants or owners of the building have interests in functioning attractive buildings that are affordable to occupy or purchase. Each stakeholder group has its own criteria for assessing developments, and conflicts between the various groups present challenges for satisfying each of the groups (Freeman, 2010).

These conflicts are particularly sensitive in relation to the real estate development sector and ESG factors. Communities may wish to see more affordable housing, more green spaces or a greater preservation of historical architectural features than will be supported financially by the developer. Investors might pressure for greater density or for better quality finishes than will allow for projects to be made affordable to those who will need to occupy or purchase the buildings. Environmental groups might oppose development even if the project makes provision for significant sustainability features. To accommodate these competing

interests, sophisticated stakeholder management is required, including an ability to make trade-offs.

Community-based stakeholder engagement is valuable from a social license to operate perspective and often a requirement for approving developments. However, it brings risks of project delays, scope creep which increases costs, and stakeholder demands that are unrealistic or unfeasible. Some stakeholders have an absolutist view that opposes all development, which creates challenges for compromising. Extended engagement processes can cause delays in developments, which can create problems for investors and lenders regarding carrying costs, and creating uncertainty surrounding the timing of developments.

There are potential legitimacy concerns with regard to power imbalances between resource-conant developers and local community groups who develop their views on developments. The communities may lack the expertise to critique and evaluate developments, or to comprehend and comment on environmental assessments, or even engage meaningfully with consultations on designs for developments. This leads to the view that there is only “window dressing” for interaction between stakeholders in developments. However, those stakeholders who are too influential may also cause problems through processes preferring to favor a few interests over a far wider view of what benefits communities (Arnstein, 1969).

To address stakeholder complexities involved in managing stakeholders, sophisticated stakeholder engagement processes that are dialogue based, not a mere “tick boxing” exercise; transparent communication that sets reasonable expectations; governance around engagement processes that ensures conflicts are resolved in a fair manner; and making genuine trade-offs among competing stakeholders’ interests without allowing any single set of stakeholders to dominate processes in ways that do not align with these interests. Companies need to find a middle ground for balancing competing interests of diverse stakeholders.

2.6 ESG in the Greek and European Context

2.6.1 European Union Regulatory Framework

The European Union is currently at the forefront of the worldwide move towards ESG regulation of corporations. Rather than simply allowing the free market to drive companies to be sustainable the EU is taking a more proactive approach by mandating that companies are sustainable in relation to ESG factors. In relation to the European real estate market, the ESG regulatory framework of the European Union presents two avenues for real estate companies to capitalize off of the ESG regime. Firstly, real estate companies can merely comply with the rules in order to remain sustainable in relation to ESG factors. Alternatively, companies can utilize the regime in order to add value to the company by developing business in line with the EU's new framework for ESG sustainability.

EU Taxonomy for Sustainable Activities

The EU Taxonomy Regulation (2020/852) establishes a legally binding definition of sustainable economic activities based on rigorous, science-based criteria (European Union, 2020). The Taxonomy establishes screening criteria for activities that promote the following six environmental objectives: climate change mitigation, climate change adaptation, sustainable use and protection of water and marine resources, transition to a circular economy, pollution prevention and control, and protection and restoration of biodiversity and ecosystems.

The Taxonomy imposes specific requirements on the real estate sector. The building energy performance criteria stipulate that at least 10% less than the required primary energy demand for Nearly Zero Energy Buildings (NZEB) must be achieved. The energy performance of new buildings must meet or exceed the required performance of NZEB buildings. The energy performance of buildings acquired or owned as part of property portfolios must feature an Energy Performance Certificate (EPC) class A or perform better than 15% of the building stock in the region or country. Renovation activities that affect more than 30% of the property's surface area must achieve at least 30% better primary energy demand than the best performing building.

The “do no significant harm” (DNSH) principle establishes further requirements. Activities that adhere to one environmental objective may not cause significant harm to other objectives. The buildings sector establishes requirements for physical adaptation to climate change (climate adaptation), efficient use of water (water efficient fixtures), waste management in accordance with circular economy principles (waste management plans), pollution prevention (no hazardous materials), and protecting biodiversity (carefully selecting sites for development that avoid protected areas unless necessary mitigation measures apply).

The Taxonomy clarifies what makes an investment “sustainable,” avoiding greenwashing while ensuring that capital flows to activities that create sustainable outcomes. The framework’s complexity, however, creates challenges. The screening criteria in the Taxonomy cover hundreds of pages, imposing heavy burdens on small businesses that do not have enough sustainability experts to manage compliance (Schütze et al., 2020). Critics also argue that the quantitative thresholds set by the Taxonomy may be unachievable in specific cases (for example, when it comes to renovations of historical buildings that are bound by obligations that exceed those required by the Taxonomy or developments in regions with extreme heating or cooling climates).

Corporate Sustainability Reporting Directive (CSRD)

The CSRD directive, which was adopted in 2022 but whose implementing provisions will only be phased in between 2024 and 2028, increases drastically the requirements for sustainability reporting obligations (European Union, 2022). The directive replaces the Non-Financial Disclosure Directive with a framework that applies to around 50.000 EU companies rather than just 11.000. All large companies in EU member states (with over 250 employees or 20 million € in balance sheet total assets or 40 million € net turnover) and all listed small and medium-sized enterprises (SMEs) will be required to comply. The directive mandates that sustainability reports must adhere to the European Sustainability Reporting Standards (ESRS) that are developed by the European Financial Reporting Advisory Group (EFRAG). The EFRAG group will consult with stakeholders on the development of

standards, and it will adopt a phased implementation plan for assurance requirements for sustainability information.

The directive mandates that companies take a two-pronged approach to sustainability issues that affect their financial performance. The two concepts are: (1) financial materiality, which refers to the impact that sustainability issues have on a company's financial performance; and (2) impact materiality, which refers to how companies impact the environment and society as a result of their operations and value chain. The dual approach ensures that companies report on ways in which their investments support sustainability goals while also disclosing how their investments may impact society and the environment.

CSRD reporting obligations impose significant requirements on real estate companies. The reporting obligations relate to: governance structures that inform sustainability decision-making; strategies for ensuring resilience to sustainability-related risks and opportunities; sustainability targets for the company's activities; sustainability-related policies that the company has implemented; and specific environmental and social performance data that relates to activities across its value chain. The requirement for reasonable assurance that supports the quality of reporting obligations will place a heavy burden on companies that will be comparable to that experienced in relation to the attainment of established reporting obligations for companies' financial activities (European Union, 2022).

Sustainable Finance Disclosure Regulation (SFDR)

SFDR imposes disclosure requirements for financial market participants regarding sustainability in investment decisions (European Union, 2019). The regulation classifies financial products in three categories: Article 6 products (standard products without sustainability claims), Article 8 products (with environmental or social features), and Article 9 products (with sustainable investment as its objective). Market participants must disclose how sustainability risks are incorporated into investment decisions, state any principal adverse impacts of investment activities on environmental or social objectives, and provide product-level information on sustainability features.

The SFDR creates strong incentives for Real Estate Funds to improve their ESG performance in order to be classified as Article 8 or 9 products and gain access to the pool of funds available for sustainable investments, attracting investors who support sustainability and then get a premium management fee in return. The availability of funds for sustainable investments creates market opportunities for real estate developers who build real estate assets with high ESG performance.

The interrelated regulatory framework of EU Taxonomy, CSRD and SFDR creates a comprehensive regulatory framework for integrating ESG concerns across the real estate value chain. Real estate companies must report Taxonomy compliance to CSRD authorities, while investment funds must report the Taxonomy compliance of their underlying investments to SFDR authorities. The cascading effects of these new demands create ESG performance obligations for all entities involved in financing and developing real estate assets.

Energy Performance of Buildings Directive (EPBD)

The EPBD (revised and significantly strengthened) contains regulations concerning the energy performance of buildings across Europe (European Union, 2018). The directive requires that all new buildings be zero-emission by 2030, with requirements for public buildings set at 2028. All new buildings must be equipped with solar photovoltaic systems where feasible. The directive also mandates energy performance certificates (EPCs) for all buildings that are sold or rented, it sets minimum energy performance requirements for buildings that must be met by properties with poor energy performance that must be renovated before they can be sold or rented, and it outlines frameworks for long-term renovation strategies for building stocks to ensure that all buildings are decarbonized by 2050.

The compliance obligations create markets for high-performance buildings and renovation services from competent real estate developers. The directive's ambitious goals, however, far exceed current market expectations in many member states, requiring significant transformation of the building industry in terms of investments in buildings, skill development in construction and renovation, and innovation in building materials and systems.

2.6.2 Greek Market Context and Characteristics

Greece has particularities that influence the state of ESG in real estate, including its economic, regulatory, market-related, and cultural aspects, all of which affect how sustainability is implemented and approached within the country.

Economic and Market-Related Aspects

Businesses and investments are significantly impacted by Greece's ongoing economic crisis, which began in 2010. The impact of the economic crisis caused a significant reduction in available capital, increased risk aversion from investors and lenders, a need to achieve short-term results due to high uncertainty, and limited resources for companies to use for sustainability efforts. However, an economic upswing in recent years has created a new willingness to invest in real estate projects, with foreign and domestic investors targeting the sector.

The role of tourism and the real estate market can create both positive and negative factors regarding sustainability. Tourism accounts for 20% of Greece's GDP. It is an economically significant sector, and its sensitivity to environmental factors and quality provides an incentive to sustainably manage environmental assets and destinations. However, the high demand for accommodations within such a limited supply provides an incentive for unsustainable land use practices if not managed properly.

Factors related to its Mediterranean climate differ from those in Northern European markets that have dominated green building research. Greece has intense dry summer months with hot temperatures that create a significant need for cooling structures. Building designs that meet the demands of such weather are more relevant than those intended to reduce heating costs, which are more common in colder climates. Water is also a limited resource in summer months, creating a need to focus on efficient use of this resource without relying on ESG-relevant designs that can limit this goal. However, an abundance of sunlit days makes building-integrated solar energy systems a viable option.

Regulatory Aspects

As an EU member state, Greece implements all relevant regulations, such as the Taxonomy Regulation, Corporate Sustainability Reporting (CSRD), Sustainable Finance Disclosure Regulation (SFDR), and the Energy Performance of Buildings Directive (EPBD). However, there can be variations in implementing these regulations over time and the degree of enforcing the regulations. Greece has faced issues with regulatory compliance in the past, but its governments have improved the overall governance structure for regulatory mechanisms in recent years.

The country has strengthened its building codes and energy efficiency expectations for buildings over the years to comply with relevant EU regulations. The current regulations only apply to new building projects and renovations that account for more than 10% of the total energy consumed by the structure. However, Greece has a significant amount of existing buildings that were constructed before energy-efficient designs became standard in building practices. The available data from 2020 indicates that over 30% of all existing residential buildings were constructed before the 1960s. According to data from 2017, 71% of Greek buildings were developed prior to 1990.

The Athens Stock Exchange requires all Greek companies listed on the exchange market to publish ESG disclosures as set out in the ESG disclosure requirements, and these transparency expectations apply to firms such as Lamda Development. The requirements encourage companies to use reporting guidelines from Global Reporting Initiative (GRI) and take into account factors relevant to the Greek market while incorporating sustainability aspects. Greek companies currently perform worse than their Northern European counterparts regarding ESG disclosure practices. However, improvements can be observed from one year to the next.

Cultural Factors

Factors related to environmental responsibility and corporate social responsibility can impact how businesses implement ESG practices. Greeks have a strong sense of connection with nature, which creates strong public sentiments regarding environmental protection. However, the pressures of a challenging economy can sometimes limit this connection in

practices when environmental protection is seen as conflicting with job creation and financial development. However, Greeks have historically demonstrated their willingness to engage with their communities and participate in voluntary environmental initiatives, which should be factored into how companies engage with their stakeholders regarding sustainability practices. However, the expectations surrounding the level of community engagement vary between Greek society and that described in most available Anglophone literature on the subject.

Family-controlled businesses are still prevalent in Greece, including those involved in real estate development. The unique factors created by family-owned businesses can create challenges and opportunities for ESG practice in Greek real estate markets. Family-owned companies can have a longer-term perspective on sustainability goals, which is conducive to an ESG framework. However, they may also have less pressure from public capital markets in Northern Europe that incorporate ESG considerations into their investment decisions.

Research Gap

Despite these unique factors in the Greek market for ESG-relevant real estate development, there is **limited academic research available on Greek markets**. The overwhelming majority of research on ESG practices in real estate development markets has been focused upon Northern European countries, particularly the United Kingdom and the Netherlands, Scandinavia, and North America. In contrast, there is a near complete absence of research studies on Southern European countries, including Greece, Spain, Portugal, and Italy, despite their potentially significant real estate markets with unique characteristics. This dissertation helps address this gap as it will conduct an in-depth analysis of Lamda Development's ESG implementation within the Greek context.

2.7 Research Gap and Questions

2.7.1 Identified Gaps in Existing Literature

Although a vast amount of research exists on the topic of ESG in real estate, there are some noticeable gaps within the sector. Primarily, the majority of current research focuses on the ESG real estate market within developed economies, namely the US, the UK and Northern Europe. There is a large void in current research on ESG within the Southern European real estate market, where the dynamics of this market are highly distinct to those already studied. This is particularly evident in Greece, where there is a notable lack of research published on the topic.

Secondly, existing research tends to focus on ESG aspects related to asset management rather than development (Eichholtz et al., 2013). Green building certifications predominantly evaluate the design and operational characteristics of a building. In contrast, aspects such as embodied carbon, construction impacts, environmental impacts during construction, health and safety of workers during construction, community engagement during development and stakeholder management during development and construction receive limited attention in existing research. Addressing ESG challenges related to large-scale, complex mixed-use developments and their diverse stakeholders is thus not sufficiently covered in existing research.

Third, almost all of the studies have taken the form of quantitative studies that seek to establish correlations between ESG and financial performance based on data about hundreds of companies, as is the case with Barbosa et al. (2023). They are matched by few qualitative case studies, which seek to understand the practical processes involved in the adoption of sustainable and responsible practices (Eisenhardt, 1989). These qualitative studies have the merit of a more detailed and also subjective look at the trade-offs and other aspects that have not been addressed through regression analysis.

2.7.2 Research Questions

Despite the absence of any research on the practice of ESG integration in real estate, an empirical study of ESG integration at Lamda Development, one of the largest real estate developers currently operating in Greece, is presented in this paper. The study is a case study of ESG integration in practice and focuses on the Ellinikon integrated development, a large mixed use urban development project proposed for a 600 acre former airport site. The study is designed to address four research questions, which address the practice of ESG integration from a strategic, values, operational and contextual perspective.

RQ1: How has Lamda Development integrated ESG into its corporate strategy and operations?

The question asks for a presentation of different integration mechanisms for ESG. This includes where ESG is positioned relative to the company's core goals, organizational structures, governance and related resources and capabilities. In addition, it includes how the company integrates ESG into the sustainability work regarding project development and daily decision making, and how the company's approach to ESG has changed over time.

RQ2: What benefits has Lamda Development realised through ESG integration?

But how do we measure the value created by ESG? In addition to the financial benefits of cost savings and gaining access to green finance, organisations and buildings developed with ESG in mind can reduce exposure to risk related to future regulation, damage to reputation and climate change. There is also the potential to gain a competitive edge in the market place. Much of this value is also linked to future sustainability driven innovation and organisational capabilities. Of course, it will also have an impact on stakeholders, such as investors, tenants and the wider local community.

RQ3: What challenges has Lamda Development encountered in ESG implementation, and how have these been addressed?

A series of questions have been added to the survey to understand some of the key barriers to implementing ESG, including difficulties around measurement and standardisation, issues related to quality and availability of data and related reporting, issues of resources

and capability, difficulties around stakeholders, organisational or cultural challenges and how these have been addressed. We are also interested in examples where ESG targets have come under pressure from other business objectives and how these tensions have been managed.

RQ4: What are the ESG characteristics for large-scale real estate development projects such as The Ellinikon?

This question is seeking information on specific ESG considerations relevant to large scale and long-term mixed-use projects & developments as opposed to single asset transactions. It is seeking to understand how Scale and Complexity are managed in delivery of ESG commitments over a 20-30 year development time frame, and how the project team engages with a range of stakeholders internally and externally. It is also looking to understand the specific Greek market context and the relevant EU and local regulations that will apply. Additionally, the question is seeking to understand how a flagship project can set new ESG benchmarks within a company, and the wider property and real estate industry.

2.7.3 Expected Contributions

The research makes four main contributions. Firstly, the research is located in a region that is underresearched regarding real estate developments. This is particularly the case in Greece, thus extending current knowledge to markets outside of Northern Europe and North America. Secondly, despite the growing awareness regarding the value that ESG adds, the research investigates sustainability issues at the development stage of real estate, particularly focusing on large-scale real estate developments. Thirdly, the research employs an in-depth qualitative case study approach that provides a rich understanding of the actual processes of ESG integration practices within real estate development. Fourthly, the research elucidates what is distinct about ESG in a flagship development, offering insights to real estate developers, investors and policy makers as to how sustainable practices can be effectively implemented within large-scale, long-term mixed-use real estate developments.

3. Lamda Development, The Ellinikon and ESG Profile

3.1 Lamda Development and The Ellinikon

Lamda Development S.A. is the parent investment real estate company listed on Athens Stock Exchange since 2001. Lamda Development invests, develops and commercialises real estate properties. Its focus is Greece and Southeastern Europe. As of 2024, the Group's investment portfolio has reached 3,48 billion € and consists of the following assets: The Ellinikon project, 4 operational shopping centres, 2 commercial projects under construction 2 operational marinas, 1 marina project under construction and other real estate, energy investments etc. (Lamda Development, 2025).

The Group's operational shopping centers: The Mall Athens, Golden Hall, Mediterranean Cosmos in Thessaloniki and the Designer Outlet Athens in Spata are visited annually by over 25 million people. Flisvos Marina has been awarded the highest international recognition with 5 Gold Anchors Platinum from the Yacht Harbour Association. The Ellinikon – Agios Kosmas Marina and the Mega Yacht Marina in Corfu are currently under construction. In 2024, total proceeds from property sales amounted to 665 million €, up by 48% compared to 2023, while consolidated operating results (EBITDA) before revaluations increased by 30% to 171 million € (Lamda Development, 2025).

The Ellinikon is the Group's flagship project and one of the most ambitious urban regeneration projects in the world. The site of the old Athens International Airport, in Elliniko, will become a hub of innovation where luxury and sustainability blend harmoniously in a highly productive setting. A total of 6,2 million square meters of land, 2,7 million square meters of buildable land and a variety of residential, hotel, shopping and commercial spaces, offices, cultural, educational institutions, hospitals and schools. The Ellinikon project has been designed, from inception, according to principles of sustainable development and shall be developed into a pioneering example of sustainable urban regeneration (Lamda Development, 2025).

Under construction at The Ellinikon are: The Riviera Tower a 200-metre height residential tower by Foster+Partners and LEED Gold pre-certified; The Riviera Galleria by Kengo

Kuma and Associates and LEED Gold pre-certified; The Ellinikon Mall by AEDAS, with 100.000 m² of lettable space and LEED Gold pre-certified; a number of residential buildings, including the Park Rise project by Bjarke Ingels Group, the Cove Residences and the Mainstream residential neighborhood, among others. There is also ongoing infrastructure work, such as the Poseidonos Avenue Underpass, the regeneration of the existing streams and the soil and groundwater decontamination of the site, the largest such project in Greece (Lamda Development, 2025).

3.2 ESG Strategy and Performance

3.2.1 ESG Governance

The Board of Directors (BoD) is responsible for the Group's sustainability performance. A major governance milestone was achieved in 2024 with the establishment of the Sustainable Development Committee (SDC), consisting of BoD members with independent non-executive mandates, as well as senior management members, meeting at least twice a year to delve into the specifics of each workstream, and ensure the successful implementation of the Sustainability Strategy. In addition, the Sustainability Department of the Investments Division deals with the environmental, social and economic impact of the activity of the Group and drafts the Group's Sustainability Strategy in close cooperation with the Lamda Development Division.

The Group has adopted a Sustainable Development Policy, effective for all members of the Group since 2021, addressing environmental, social and governance aspects. The Sustainable Development Policy for Ellinikon is a fundamental component of all processes, activities, works, designs and operational practices, both during the construction period and the overall lifespan of the project. In 2024, Lamda Development became a participant of the UN Global Compact and applies the 10 universal principles (Lamda Development, 2025).

3.2.2 Sustainability Strategy

The Ellinikon Group Sustainability Strategy was initially introduced for The Ellinikon project in 2021, and is structured around three pillars: Decarbonisation, for a low carbon economy, advancing towards a carbon neutral economy; Circularity, for reducing the environmental footprint of our operations through the efficient use of resources and the reduction of waste; People and Prosperity, for generating economic value and promoting social cohesion. The implementation of the Group Sustainability Strategy will be further developed for the Group's overall operations as of 2024 and the final version of the Group Sustainability Strategy is planned to be rolled out in 2025 (Lamda Development, 2025).

The Decarbonisation Strategy for 2030 is included in the Company's Strategy. The Company's targets have been verified by SBTi and are in line with the Paris Agreement's goal to limit global warming to 1,5°C. Specifically, the Company has set the following three science-based targets:

- 69% reduction in operational building GHG emissions intensity
- 42% reduction in non-building-related direct and indirect operational emissions
- 52% reduction in value chain emissions intensity all measured from a 2022 base year.

The Company's decarbonisation levers are based on the following four pillars: energy efficiency, renewable energy production, renewable energy procurement and value chain decarbonisation measures (Lamda Development, 2025).

3.2.3 Environmental Performance

Lamda Group of Companies has reported its annual carbon footprint, measured and verified according to the ISO 14064-1:2018 standard and the GHG Protocol, since 2022. For the year 2024, Group's combined Scope 1 and 2 emissions decreased by 11% when compared to 2023. The Group's total GHG emissions intensity per million euros of net revenue decreased by 31% compared to 2023. Energy intensity per net revenue decreased by 10% between 2023 and 2024, a period during which total revenues increased by 48%. Scope 3 emissions, which represent 88,2% of total emissions, rose mainly as a result of the expansion of the Group's construction activity (Lamda Development, 2025).

Table 3.1 presents the key environmental performance indicators for the Group.

Indicator	2024	2023	Trend
Total energy consumption (MWh)	55.107,5	41.510,1	↑
Energy intensity (MWh/million €)	82,9	92,1	↓
Scope 1 emissions (tCO₂eq)	1.782,0	2.087,3	↓
Scope 2 emissions – market-based (tCO₂eq)	8.446,8	9.416,5	↓
Scope 3 emissions (tCO₂eq)	76.561,4	74.079,6	↑
GHG intensity (tCO₂eq/million €)	130,5	189,9	↓
Water consumption (m³)	291.823	426.440	↓
Waste diverted from disposal (%)	97,8	97,8	=

***Table 3.1:** Key Environmental KPIs (Source: Lamda Development, 2025)*

The Group's ecological approach to the construction of its projects is confirmed through various international certifications. Specifically, the Building Complex for People with Disabilities at The Ellinikon was awarded the prestigious LEED Platinum certificate in 2024, while The Ellinikon Experience Park is the first project in Europe to receive SITES Gold certificate for new developments. All buildings in The Ellinikon are designed to achieve a maximum Energy Performance Certificate (EPC) class of A+, and several have already received the LEED Gold pre-certification. In addition, solar panels are being installed at all of the Group's four shopping centers and Flisvos Marina, for a total installed capacity of 3,7 MW (Lamda Development, 2025).

3.2.4 Social Performance

Lamda's workforce comprised of 769 employees (6% more than in 2023) plus 2.218 people from the value chain that were not directly employed by the Group (25% more). Female staff accounted for 55,7% of the workforce and 31,3% of senior management. The level of staff turnover was lower in 2024, at 6,5% compared with 7,1% in 2023. Unfortunately, although there were no fatal accidents in 2024, the accident severity rate was higher than in 2023, in line with the increased volume of construction work (Lamda Development, 2025).

The Group supports local communities through targeted corporate responsibility actions. In this context, the donation and handing over to the Elliniko-Argyroupolis Municipality, by

Lamda Development, of The Building Complex for People with Disabilities is one of the Group's charity actions. In addition, the Group is a sponsor of ReBrain Greece (Lamda Development, 2025).

3.2.5 Governance and Sustainable Finance

According to the provisions of Law 4592/2018, women directors constitute 27,3% of the Board of Directors, while 45,5% of the Board members are independent non-executive members. No infringement of the business ethics code was recorded during the years 2023 and 2024 and no corruption or bribery cases were proven. Lamda Development conducts an annual Double Materiality Assessment in accordance with the European Sustainability Reporting Standards (ESRS). The assessment carried out in 2024 led to the identification of 17 material topics related to environmental, social and governance aspects (Lamda Development, 2025).

Lamda Development issued in 2022 a Green Bond for 230 million € in 2022 as part of its sustainable finance initiatives. As of the end of 2024, more than half of this amount (53,1% i.e. 118,5 million €) had been channeled into specific environmental projects, with the majority 49,3% being allocated to sustainable real estate and land use, 3,1% to renewable energy projects and 0,7% to smart city projects. In addition, the Group's EU Taxonomy disclosure shows that 50,05% of capital expenditure and 19,88% of turnover are EU Taxonomy aligned (Lamda Development, 2025).

3.2.6 Awards and Recognition

The ESG efforts of Lamda Development have been verified by various externally national and international organizations. Specifically, TIME magazine included Lamda Development in the TIME100 Most Influential Companies list in 2024. Lamda Development ranked 1st in Greece in the GRESB Real Estate Benchmark with scores of 71/100 for operated assets and 93/100 for developments, thus receiving a Green Star classification. It was also included for the fourth consecutive year in the list of The Most Sustainable Companies in Greece by the QualityNet Foundation, and received an ATHEX ESG Transparency Score of 84%. It was also awarded with the ESG Pioneer award at the BRAVO Sustainability Awards and with the Environmental Stewardship of the Year award (Lamda Development, 2025).

Chapter 4: Research Methodology

4.1 Research Design

This study uses a qualitative case study approach to explore how ESG is integrated at Lamda Development S.A., one of the largest real estate developers in Greece. The case study is the most appropriate methodology for this study as it enables in-depth study of the phenomenon in its real-world environment, especially since the borderline between the issue and its environment is not clearly defined (Yin, 2018). ESG integration in real estate is a complex phenomenon of unclear boundaries since it must deal with strategic, operational, and stakeholder dimensions at the same time.

The research questions are all “how” and/or “why” questions. Thus, the analysis is deep but not broad since only one company, Lamda Development, is studied. Large-scale real estate development projects, and in particular those are to be operated over a significantly long period, have some distinct characteristics when it comes to integrating ESG. Case study research is particularly suitable to provide a holistic view on a single case (Eisenhardt, 1989). Therefore, a case study seems to be the most appropriate methodology.

The developer selected for the case studies was Lamda Development. It is one of the largest real estate developers in Southeastern Europe and is listed on the Athens Stock Exchange. It has made commitments to ESG issues and has issued two Green Bonds so far. It has also set science-based decarbonisation targets. The study follows The Ellinikon, an urban regeneration project, as the primary unit of analysis. Although Lamda Development was treated as a single case study, the different functions of the company were studied thus transforming the single case into a single-case embedded study (Yin, 2018).

This study uses two main sources of information: (a) interviews with senior employees and (b) a thorough analysis of the company's public documents. Both sources are considered equally important and are combined using triangulation, a technique explained in more detail in Section 4.2.3. This approach is supported by research methods experts, who consider document analysis as a valid way of gathering qualitative data (Bowen, 2009, Atkinson & Coffey, 1997, Prior, 2003). Additionally, due to the limitations in recruiting interview participants, as discussed in Section 4.2.1, using both interviews and documents

helps create a stronger foundation for the findings. By comparing and combining information from both sources, this study can ensure that the results are reliable and well-supported.

4.2 Data Collection

The research draws on two data sources that work together: semi-structured interviews and documentary analysis. Combining the two allows for triangulation, where evidence from one source can support or challenge what is found in the other, which makes the findings more credible (Yin, 2018; Bryman, 2016).

4.2.1 Semi-Structured Interviews

The data was partially gathered through a series of semi-structured interviews. The format of the interviews allowed the interviewer to follow new topics as they arise during the conversation, enabled the interviewer to request further explanation where necessary and to ensure the interview is relevant to the research objectives through a series of predefined methodical questions. The interview work was completed in April 2026. During this period, four in-depth interviews took place with senior level staff members from various Lamda Development departments.

- Interview 1: Danai Frantzi-Gounari, Sustainability Head
- Interview 2: Nikolaos Karavotas, Sustainability Manager
- Interview 3: Markos Zafeiriou, Construction Director
- Interview 4: Marilena Kaplantzi, Senior Tenant Coordinator Manager

Securing recruitment to the study proved to be more difficult than anticipated. Whilst some potential participants agreed to participate in the study, others declined for reasons such as lack of time, their skills/ expertise not being relevant to the research questions or by ignoring the request for participation made by the researcher. Participation was achieved mainly through existing work-networks and the participants held a variety of roles related to sustainability, construction and tenant co-ordination at all stages of the building project lifecycle including design and construction.

Unfortunately, it was not possible to recruit any participants from Operations Department. The Ellinikon projects are still in design or under construction phases with minimal on-site operation needs and activities going on at the moment. All of Lamda's operations personnel are based at other Lamda properties (The Mall Athens, Golden Hall, Mediterranean Cosmos in Thessaloniki, and the Designer Outlet Athens). These sites are located in shopping malls and retail parks throughout Greece where no existing professional relationships existed. This gap is acknowledged as a limitation of the study and mentioned in the following Chapter 5. The systematic documentary analysis that is described in the following Section 4.2.2 is therefore seen as a primary source of equal to the interviews importance rather than a side check of the interviews.

The interview guide consists of three core questions for each of the four research questions. In addition to these 12 core questions, special role-specific probe questions were used for the construction manager, sustainability staff and tenant coordinator to allow them to speak specifically to issues within their own responsibility. The interviews were conducted at Lamda Development offices, bullet notes were taken and then transcribed and included in the Appendix.

Research Question 1: ESG Integration and Strategy	
Q1	How you see ESG at Lamda Development and why you have chosen it as a development strategy for the company.
Q2	How do you translate ESG requirements into project plans and operational activities at Lamda Development?
Q3	What are the frameworks or standards that Lamda Development uses to measure and report ESG performance?
Research Question 2: Benefits and Value Creation	
Q4	Are there any financial benefits for Lamda Development as a result of its focus on ESG such as cost savings, enhanced access to green financing, competitive advantages in the market and others?
Q5	How does ESG helps managing risks, regulatory, reputational or climate-related for Lamda Development?
Q6	What are the impacts of the Lamda's implementation of the ESG criteria on relations with main stakeholders i.e. investors, occupants and local communities?

Research Question 3: Challenges and Barriers	
Q7	What are the challenges of implementing ESG in Lamda Development and could provide examples where those challenges materialized?
Q8	What are the challenges for the measurement and disclosure of the ESG performance?
Q9	When do ESG goals and other business goals conflict and how you deal with them.
Research Question 4: ESG in Large-Scale Real Estate Development	
Q10	What are the specific ESG characteristics of a large-scale, long-term development (as The Ellinikon) compared to other, more typical, smaller-scale projects?
Q11	What is the Greek market context and the EU regulatory environment like, and how does this influence the ESG approach at Lamda Development?
Q12	How Lamda Development can keep consistent to its ESG commitments for a long term project like The Ellinikon, that is expected to last for decades?

Table 4.1: Interview guide - 12 core questions mapped to the four research questions

4.2.2 Documentary Analysis

The documentary evidence supporting and triangulating the interview data comes mainly from Lamda Development's annual and sustainable development reports for the 2020-2025 period, as well as from projects' related documentation of The Ellinikon, Lamda Development Group's Sustainable Development Policy, Green Bond Framework and allocation reports, Decarbonisation Strategy and any other relevant external communications (press releases, etc.) published on Lamda Development's corporate website. The documents were analyzed systematically in order to extract the companies' ESG commitments and targets, the relevant KPIs, the corporate governance principles and the stance towards different stakeholders as well as the overall pattern of the ESG disclosure over time.

The documents are not just helpful for backing up what people said in interviews but also provide their own unique evidence. Throughout the study various numbers and facts around policies and initiatives such as the carbon footprint of a company, Taxonomy, the Green

Bond, allocation of the Green Bond and the certification portfolio of the company were used. The Sustainability team of Lamda Development did not mention these details during the interviews; therefore, the documentary analysis was the main method of research for these issues as suggested by Bowen (2009).

From the perspective of the analysis of documents, they were used for verification of the facts stated in the interviews. Thus, what the interviewee said was verified by the information found in the documents. For example, the Sustainability Head stated that Green Bond connects capital allocation with the sustainable investments. This fact was verified by the information contained in the Green Bond Allocation Reports as well as in the 2025 Annual Financial Reports. On the other hand, what was found in the documents and was not mentioned in the interviews is also a major finding. For example, a 31,4% year-on-year decrease of Greenhouse gas emissions was stated in the 2025 Sustainability Statement. This fact was not mentioned in any of the interviews. By cross-checking the information found in the interviews with the information contained in the documents, one verifies the facts found in order to check their validity and reliability. This approach to the analysis of primary data allows for a more in-depth analysis of the researched issues.

Category	Specific documents	Period	Primary use
1. Corporate sustainability disclosures	1.1 Sustainable Development Reports (Group) 1.2 2025 Annual Financial Report and Sustainability Statement (CSRD / ESRS)	2020-2025	Primary source for ESG strategy, governance architecture, environmental and social indicators, trends identification and comparison over time
2. Financial disclosures	2.1 Annual Financial Reports	2020-2025	Financial information, capital structure, bond issuance, EU Taxonomy alignment of turnover, CapEx and OpEx

3. Strategic and governance documents	3.1 Group Sustainable Development Policy 3.2 The Ellinikon Sustainable Development Policy 3.3 Decarbonisation Strategy (SBTi-validated) 3.4 Double Materiality Assessment 3.5 Suppliers' Code of Ethics 3.6 Human Rights Policy 3.7 SDC Establishment Announcement (Feb 2024)	2021-2025	Primary evidence on strategic planning, governance arrangements, science-based target setting
4. Sustainable finance documents	4.1 Green Bond Framework (2022) 4.2 Green Bond Impact Reports 2022, 2023, 2024	2022-2025	Formal link between sustainability commitments and capital allocation; annual reporting on Green Bond proceeds deployment
5. Project-level documentation	5.1 Ellinikon Masterplan Press Release	Nov. 2021	Formal corporate communication setting out the scope, scale and phases of The Ellinikon
6. External validation sources	6.1 GRESB Real Estate Benchmark reports 6.2 ATHEX ESG Transparency Score 6.3 ISS ESG rating reports 6.4 CDP submissions 6.5 BRAVO Sustainability Awards 6.6 TIME100 Most Influential Companies recognition	2020-2025	Independent third-party assessment (mitigating the risk of relying only on self-reported corporate disclosure)
7. Regulatory and framework references	7.1 CSRD (Directive 2022/2464) 7.2 ESRS 7.3 EU Taxonomy Regulation (852/2020) 7.4 Energy Performance of Buildings Directive (2018/844) 7.5 Greek Climate Law (Law 4936/2022) 7.6 KENAK 7.7 UN Sustainable Development Goals	2018–2025	Institutional and regulatory context against which the Group's commitments and disclosures are read

Table 4.2: Documents analysed, by category, period covered and primary use

4.3 Data Analysis

In this research a step-by-step approach to thematic analysis, developed by Braun and Clarke (2006) was adopted. The interview transcripts, together with the company documents supplied by the respondent, went through the process of thematic analysis, a method for doing qualitative data analysis. Thematic analysis involves reading (and re-reading) the written data, coding parts of the data that appear relevant, and developing themes from re-occurring subject areas.

The findings from the study were triangulated using multiple sources of data (company reports and interviews) and organisational perspectives (Development, construction and sustainability). At some points our sources agreed, allowing us to be more confident in our interpretations at these points; at other points they disagreed, teaching us about differences between a particular policy and practice as well as between particular perspectives.

The analysis used thick description, meaning detailed accounts supported by direct quotes from participants and specific points from the documents. This allows to reader to see the evidence on his own, judge whether the interpretations is accurate or not and decide how far the findings might apply to other companies or settings.

The thematic structure that came from this analysis i.e. the initial first-order codes picked from the interview raw data, the higher-order themes into which they were subsequently grouped, and finally their mapping to the four research questions, is presented in Chapter 5 (Tables 5.1 to 5.4), so that the coding scheme is clearly defined and traceable from raw words through codes and themes and up to the research-question level.

4.4 Ethical Considerations

The research was conducted in accordance with the standard ethical principles. Participants received an explanation of the aims of the research and the intended use of the interviews before they provided their consent to participate All the participants in the study provided

consent. In addition, they were told that they would be cited and identified by their real names and positions rather than initials and/or generic roles and that they would have the opportunity to read their individual transcripts prior to their inclusion in the dissertation's Appendix.

Chapter 5: Findings, Discussion and Conclusion

5.1 Introduction

This chapter will present findings from the four semi-structured interviews conducted with Lamda Development personnel and a comparative analysis of the Group's 2025 Annual Financial Report and Sustainability Statement.

The thematic analysis of interview transcripts and also documentary evidence produced first-order codes that group into higher-order themes for each research question. The thematic structure is summarised in Tables 5.1 to 5.4, placed at the start of Sections 5.2 to 5.5 respectively. In these tables, interview sources are identified as I1 (Sustainability Head), I2 (Sustainability Manager), I3 (Construction Director) and I4 (Senior Tenant Coordinator Manager), and documentary sources are abbreviated as 2025 AFR/SS (Lamda Development's 2025 Annual Financial Report and Sustainability Statement) etc.

5.2 Findings on Research Question 1: ESG Integration into Strategy and Operations

Table 5.1 below summarises the thematic structure that emerged for Research Question 1.

Theme	First-order codes	Sources
ESG as core strategic function	• Core strategic and value-creation element	I1
	• Inside how the organisation plans, invests and operates	I2 <i>Sustainable Development Policy</i>
Layered governance architecture	• Board of Directors → Sustainable Development Committee → Sustainability Department	I1 I3
	• Translation into technical specifications and tender packs	<i>Sustainable Development Committee</i>

Multi- framework standards	• Disclosure: CSRD / ESRS, EU Taxonomy, ATHEX ESG, UN SDGs	<i>II</i>
	• Building certifications: LEED, BREEAM, SITES	<i>13, 14 GRESB, 2024</i>
	• Benchmarks and validation: SBTi, GRESB, CDP, ISS ESG	<i>ATHEX, 2024</i>

Table 5.1: *Thematic analysis - Research Question 1 (ESG integration into strategy and operations)*

Environmental, Social and Governance (ESG) factors are treated as core considerations at Lamda. ESG is fundamental to the strategy, investment and overall approach of the organisation. All participants described the ESG function as being at the core of how Lamda plans, invests and operates. The Lamda Sustainability Head commented that ESG “is not viewed as a separate workstream or a simple reporting requirement. ESG is inside the way the organisation plans, invests and operates”. For Lamda Development ESG across all its pillars forms a fundamental principle of the Group’s business strategy, as shown in its Sustainable Development Policy (Lamda Development, 2025d).

Governance arrangements for implementing the Sustainability Strategy consist of several layers. Firstly, the Board of Directors has the top accountability and the Sustainable Development Committee (established in February 2024) comprising of a number of directors and senior executives focuses on sustainability issues across the Group. The establishment of the aforementioned Committee was formally announced by the Board of Directors following the Athens Exchange Regulation and EU Market Abuse Regulation 596/2014 (Lamda Development, 2024c), confirming the Committee's role to monitor and assist the Board in the long-term oversight of the Group's sustainable development strategy. The Sustainability Department is then responsible for implementing the strategy across the organization as a whole, reporting into the Chief Investment Officer. Construction Director explained: “The key point is that the Sustainability Department set the requirements and that these are then translated into the technical specifications and incorporated into the tender packs for individual projects.” This therefore ensures that the overall Sustainability Strategy is implemented across the Group.

All certifications are based on global, European and Greek certifications. For Lamda, the reference points at a strategic level are the UN Sustainable Development Goals. The way it applies them for disclosure is based on the CSRD and European Sustainability Reporting Standards and the report is also based on the EU Taxonomy and the ATHEX ESG framework for reporting. Buildings at Lamda also hold various certifications (LEED, BREEAM, SITES). Decarbonisation targets are validated and benchmarked for by GRESB, CDP and ISS ESG. This ensures legitimacy for various stakeholders, yet comes with certain costs of implementation.

5.3 Findings on Research Question 2: Benefits and Value Creation

Table 5.2 below summarises the thematic structure for Research Question 2.

Theme	First-order codes	Sources
Improved access to capital	• Green Bond (€230m repaid early July 2025; €500m new bond Nov 2025) • RRF financing and sustainability-linked bank loans	<i>II</i> <i>2025 AFR</i> <i>Green Bond Framework</i> <i>Green Bond Impact Reports 2022–2024</i>
Operational efficiency and asset value	• ↓ 31.4% YoY GHG; 95.82% renewables • LEED premium for buyers and tenants	<i>I4</i> <i>2025 AFR/SS</i>
Risk mitigation	• Regulatory (CSRD), climate (SBTi 1.5°C; flood / coastal), reputational (transparency)	<i>II</i> <i>I3</i> <i>Sustainable Development Policy</i>
Stronger stakeholder relationships	• Investors, communities and tenants all strengthened	<i>II</i> <i>I4</i> <i>Human Rights Policy</i>

Table 5.2: *Thematic analysis - Research Question 2 (benefits and value creation)*

The most obvious financial benefit is the increased access to green and sustainability-linked finance. The Sustainability Head mentioned Green Bonds, financing from the Recovery and

Resilience Facility (RRF) and bank loans that reward sustainability as successful means of "lowering our cost of capital and broaden our investor base". The relation between capital allocation and eligible sustainable investments is presented in the Group's Green Bond Framework (Lamda Development, 2022), and progress is reported annually with the Green Bond Impact Reports (Lamda Development, 2023, 2024, 2025c). According to the 2025 Annual Financial Report (Lamda Development, 2026), the organisation fully repaid the 230 million € Green Bond that was issued in 2022, in early July 2025. The company subsequently issued in November 2025 a new 7-year 500 million € bond with a yield of 3,80% to fund upcoming residential projects. This approach is aligned with literature that shows that green bonds are positively accepted by markets and therefore lower funding costs.

Reduction of operating costs is achieved through energy efficiency and obtaining renewable energy e.g. installing photovoltaics on roofs. The Tenant Coordinator at our flagship project, The Ellinikon, reported that the Buyers of homes at The Ellinikon were willing to pay a premium for the LEED certified building and for its sustainable design as well as for the proximity to the Metropolitan Park that will become one of the largest urban green spaces in Europe. Total Group-wide GHG emissions decreased by 31,4% year-on-year due to the installation of photovoltaic panels at the existing shopping centres (to be followed by the 2 new ones under construction in the Ellinikon project) resulting in a renewable energy procurement that covers 95,82% of the total electricity consumption (Lamda Development, 2026). These actions interpret as both financial benefits and decarbonisation progress.

The key strategies for mitigating risk are: (i) reduce the risk of regulatory change by ensuring CSRD compliance for EU Corporate Sustainability (CSRD) legislation and Double Materiality assessment; (ii) manage the risks of climate change, including climate change induced risk to investment and business, through the Group's Decarbonisation Strategy with SBTi targets, in line with the 1,5°C scenario of the Paris Agreement, plus the physical risk of events, such as floods and the associated measures of coastal protection or other relevant protection where required and (iii) manage reputational risk through transparency and stakeholder engagement as detailed in Lamda's Sustainable Development Policy (Lamda Development, 2025c). The Construction Director stated: "Since Lamda established its ESG

framework several years ago, it is relatively straightforward to stay compliant as new requirements come in."

Stronger relationships with all stakeholders have been a major focus for Lamda. With investors ESG has become a common language, allowing Lamda to access an increasing number of ESG driven funds. With local communities Lamda continues to support NGOs and vulnerable groups and is involved in constructive discussions with local communities on all construction related disturbances. Commitment to protection of human rights as well as to local community engagement are key elements of the Group's Human Rights Policy (Lamda Development, 2024b). With tenants and end-users, improved environmental quality and an obvious market demand for sustainable spaces strengthen both occupancy rates and asset values.

5.4 Findings on Research Question 3: Challenges and Barriers

Table 5.3 below summarises the thematic structure for Research Question 3.

Theme	First-order codes	Sources
Value-chain coordination	• Contractor capability gap • Soil and groundwater decontamination - no local expertise	<i>II</i> <i>I3</i> <i>Suppliers' Code of Ethics</i>
Measurement and Scope 3 data quality	• Supply-chain data quality • 2024 recalculations; 3–38% base-year revisions	<i>II</i> <i>I3</i> <i>2025 AFR/SS</i>
Cost premium and schedule tension	• Sustainable specs cost more upfront • Leadership stance: sustainability standards non-negotiable	<i>II</i> <i>I3</i>
Customer expectation management	• Timelines and communication required	<i>I4</i>

Table 5.3: Thematic analysis - Research Question 3 (challenges and barriers)

Value-chain coordination is the primary challenge. ESG implementation passes through multiple stakeholders: designers, contractors, suppliers and operators. The Sustainability Head identified this as "coordination across the value chain, both internally and externally." The Construction Director located the difficulty with contractors: "the hardest part is the contractors, because they are not all yet at the level required by our sustainability standards." The groundwater and soil decontamination project at The Ellinikon, the largest of its kind in Greece, required bringing in specialist consultants from abroad because no local expertise existed. The sustainability challenges that Lamda Development sets for the value-chain of suppliers and contractors of the Group are laid out in the Suppliers' Code of Ethics document (Lamda Development, 2022b). In this document the Group states its environmental, social and ethical standards of behavior for suppliers and contractors of the Group.

Measurement complexity is a second barrier, particularly for Scope 3 emissions. The Sustainability Head identified three challenges: scale and complexity of data collection across multi-phase development, lack of fully standardised methodologies in evolving regulatory landscape and difficulty integrating data from complex supply chains. The Construction Director confirmed: "Scope 3 emissions are a significant challenge because they depend entirely on data we receive from numerous contractors, subcontractors and suppliers many of whom have never had to measure their emissions before." The 2025 Sustainability Statement (Lamda Development, 2026) is transparent about these difficulties, disclosing that 2024 data have been recalculated in multiple sections and that base-year emissions have been revised by between 3% and 38%, with the company setting a target of transitioning to actual measurement by 2030.

Lamda also faces challenges in terms of cost premium and schedule tension as most pressure on sustainable specifications comes from short-term cost versus the long-term value. In the early stages of a product's lifecycle, sustainable specifications may have higher initial cost than less sustainable alternatives but offer far better outcomes as the building's lifecycle progresses. To manage this challenge systematically, Lamda uses lifecycle cost analysis to take long-term performance into account in decision making. In addition, the broader benefits of sustainable specifications are made explicit, stakeholder dialogue takes place across the Group, sustainable specifications are embedded in governance structures that take sustainability into account when making decisions and green financing which allows more sustainable options and even rewards them in the long run. The Construction Director was

direct: "Lamda's leadership has made very clear that sustainability standards are not negotiable."

Customer expectation management, particularly around timelines, emerged as a fourth challenge. The Tenant Coordinator noted: "high sustainability standards require more time and more money". Buyers and tenants are excited by The Ellinikon's vision but require constant communication to remain patient through a long development process.

5.5 Findings on Research Question 4: ESG in Large-Scale Real Estate Development

Table 5.4 below summarises the thematic structure for Research Question 4.

Theme	First-order codes	Sources
City-scale, multi-decade scope	• City-scale intervention, not a collection of buildings	<i>I1</i>
	• 40+ year horizon	<i>I2</i> <i>Ellinikon Masterplan press release</i>
Stakeholder complexity and interface risks	• Mixed-use stakeholder mix	<i>I1</i>
	• Interface risks between uses, phases and stakeholders	<i>I3</i> <i>I4</i>
Long-horizon consistency through structures	• "Structures, not enthusiasm"	<i>I1</i>
	• Living system that evolves with regulations and science	<i>I2</i> <i>I4</i>
Greek and EU regulatory context	• EU: CSRD, EU Taxonomy, Fit for 55	<i>I1</i> <i>I2</i> <i>I4</i>
	• Greek: EPBD, Climate Law, KENAK	<i>European Union, 2018</i> <i>Hellenic Republic, 2022</i>

Table 5.4: *Thematic analysis - Research Question 4 (ESG in large-scale real estate development)*

Three distinctive features of ESG in large-scale, multi-decade development were observed. First, scale and scope. The Sustainability Head emphasised that "The Ellinikon is a city-scale intervention, not just a collection of buildings", including infrastructure, public areas and mobility systems affecting multiple stakeholders at the same time. The Sustainability Manager also agreed but stated it more broadly: ESG at The Ellinikon "operates at city scale and a multi-decade horizon therefore turning ESG from asset-level compliance into a long-term governance, resilience, and social legitimacy framework that determines how an entire urban ecosystem will function for generations." A formal presentation of the scope and scale of the project is provided in the Group's press release for the Ellinikon Masterplan (Lamda Development, 2021b).

Second, stakeholder complexity. The Tenant Coordinator described "the complexity of the stakeholder mix" as unlike smaller projects: residential buyers, international retail tenants, hotel operators, marina users, and local communities, all have different expectations. The Construction Director added that running multiple construction sites simultaneously with different contractors and certifications creates "a great deal of complexity" in ensuring a consistent alignment. The Sustainability Head identified "interface risks" i.e. boundaries between different uses, phases, and stakeholders, that smaller projects do not face.

Third, a multi-decade consistency. The Sustainability Head argued that "consistency over a multi-decade project is a question of structures, not enthusiasm", relying on sustainability management systems, embedded design and construction guidelines, procurement integration, and continuous KPI-based monitoring. The Tenant Coordinator added that standards of the 2040s will differ from today's and that consistency requires an ability to continuously update targets. The Sustainability Manager described ESG as "a living system that evolves with regulations and science." The long-horizon management structures of the Group in terms of sustainable development for the development of the area, such as the company's Sustainability Strategy, the KPIs of the company that it monitors and the integration of sustainability in the procurement processes of the company, are presented in the Group's Sustainable Development Report (Lamda Development, 2025).

The Greek and EU regulatory context shapes implementation substantially. EU climate-neutrality targets (Fit for 55, European Green Deal), CSRD and EU Taxonomy compliance,

and investor expectations drive planning and reporting. Nationally, the Energy Performance of Buildings Directive transposition, Greek Climate Law, and KENAK bonus push the market toward higher standards. The Tenant Coordinator noted that international clients, particularly from Northern Europe, arrive with high ESG expectations that push standards beyond local requirements. The 2025 EU Taxonomy disclosures show that 73,25% of Group turnover and 66,52% of capital expenditure were Taxonomy-aligned, with aligned turnover growing 99,4% on 2024 (Lamda Development, 2026).

5.6 Discussion

The four research questions and their findings can be read simultaneously in a single framework of interpretation. Figure 5.1 below summarizes the thematic structure that emerged from the present analysis. How integrating ESG strategically (RQ1) facilitates the benefits that are identified in RQ2 and at the same time highlights the difficulties that are seen in RQ3, both of which are broadened by the large-scale, long-term project nature examined in RQ4. When interpreted this way, the findings do not constitute four parallel stories but a single coherent one. The strategic integration one sees in RQ1 (the multi-layered corporate governance structure, the stack of frameworks and standards, the formal policies) is what enables the benefits of RQ2: without an investor-oriented governance structure there couldn't be a Green Bond, and without a decarbonisation strategy with scientifically based targets there wouldn't be a measurable emission reduction. The same integration also highlights the challenges of the RQ3: the more ambitious is the strategy, the difficulties of coordination, measurement and cost trade-offs become more obvious and stronger. The large-scale and long-term project nature indicated in RQ4 then strengthens both sides simultaneously, increasing both the importance of the benefits as well as the difficulty of the challenges. The dashed "feedback arrow" in Figure 5.1 indicates that the context also shapes the strategic integration itself, as the demands of a project of the size of The Ellinikon are part of the reason why Lamda Development is structured with the comprehensive governance and disclosure architecture that it operates today.

The remainder of this section discusses each of these connections in turn, drawing primarily on the literature reviewed in Chapter 2, with reference to the documentary record and the interview material where relevant.

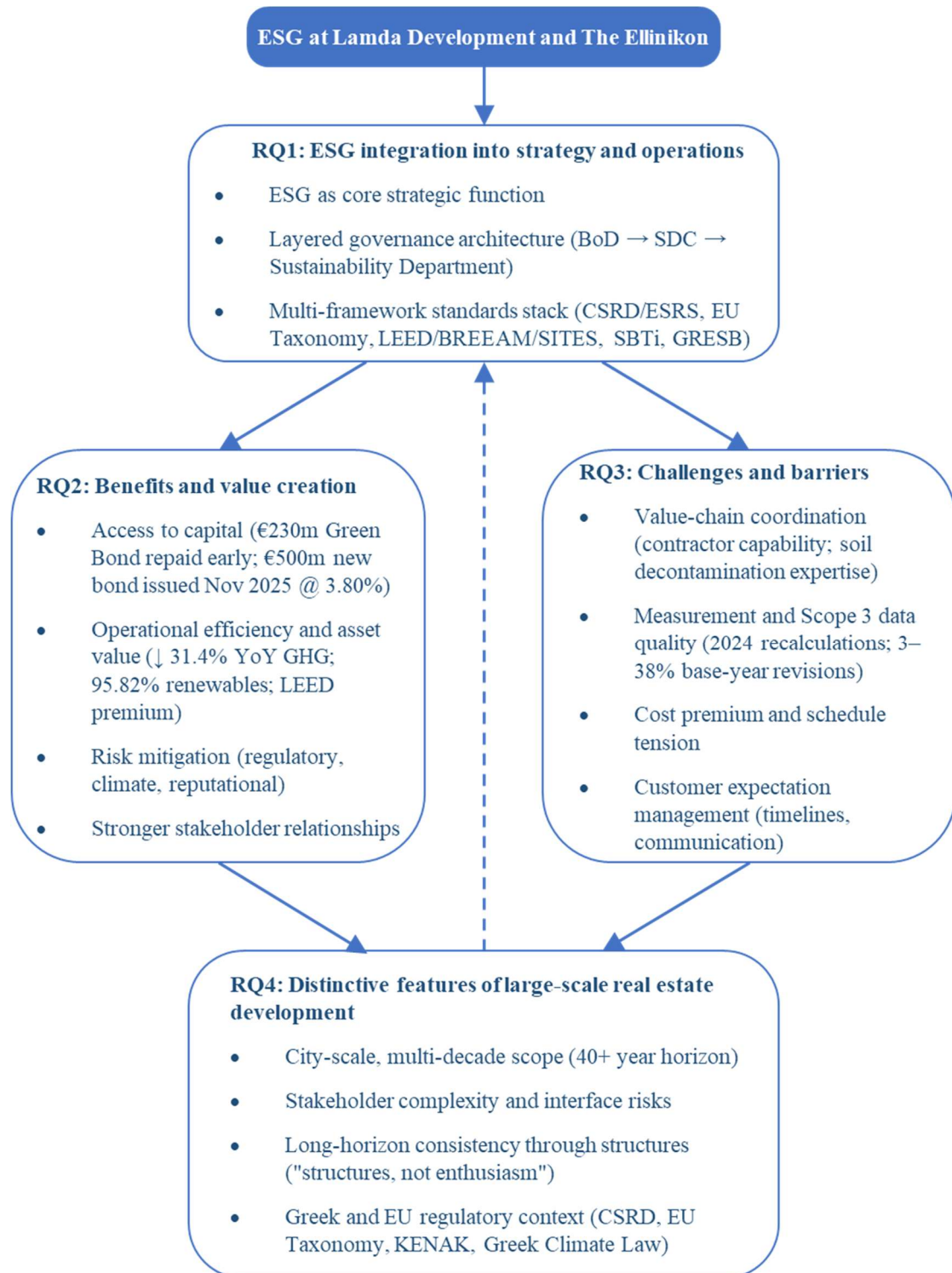


Figure 5.1: Thematic synthesis of findings across the four research questions

The four questions raised by the study identify a number of issues that have to be addressed when viewed together with the literature discussed in Chapter 2.

First, Lamda embeds ESG into the organisation in the most effective way by making it more than a reporting activity; it treats it as a strategic and governance issue. Lamda's approach to ESG starts from the Board down through the Sustainable Development Committee to the Sustainability Department, then embed it into the project design and the procurement process (Lamda Development, 2024c, 2025d). This is in line with Eccles and Serafeim (2013) and Eccles et al. (2014) who discuss how long-term value is created by embedding sustainability into the activities of an organisation. It also aligns with Hart (1995) who views sustainability as a strategic asset rather than a cost.

Secondly, Lamda has worked hard to extract the financial benefits of green and sustainability-linked finance and lower energy costs. It has successfully benefited from early repayment of its initial Green Bond that was to mature in July 2025 and then it successfully issued a new bond for 500 million € in November 2025 (Lamda Development, 2022a, 2026). Friede et al. (2015) and Whelan et al. (2021) found a positive relationship between ESG considerations and financial performance, and this is illustrated by the Lamda case study. These benefits can continue to be realised only if the organisation continues to invest in, develop and improve its sustainability capability, governance and disclosure practices. Eichholtz et al. (2013) and Fuerst and McAllister (2011) found a price premium for green buildings, and this is also visible in the demand from buyers for LEED-certified homes at The Ellinikon.

Third, the challenges Lamda faces are the same ones the literature has highlighted as the most difficult. Coordinating a wide value chain is the issue raised by Falkenbach et al. (2010); ESG measurement frameworks are known to diverge across providers (Berg et al., 2022; Christensen et al., 2021); the gap between predicted and actual building performance is a recognised problem (de Wilde, 2014); and the embodied-carbon and construction-phase issues raised by the Construction Director match the concerns of UNEP (2022) and the World Green Building Council (2019). Having a strong governance in place does not magically eliminate the aforementioned problems but it certainly facilitates their

management by means of life-cycle cost analysis, contractor monitoring, transparent (re)calculation of historical data, detailed disclosure of data etc.

Fourth, the large dimension of the urban regeneration project studied in this research, in terms of geographical size as well as duration, makes a difference with respect to other development projects. Design of different elements can go in parallel and even construction can take place in stages. As a consequence, the number of relevant stakeholders is higher than usual. This is a specific group of projects for which little attention has so far been given in the green-building literature, which is largely written from the perspective of asset management (Eichholtz et al., 2013). As Falkenbach et al. (2010) and the World Green Building Council (2019) among others have observed, more research into ESG issues in the development phase, into the issue of embodied carbon as well as into stakeholder management in very large projects is required. The Greek and Southern European context also matters in its own right. Lamda sits at the intersection of an evolving Greek regulatory environment, a demanding EU framework (European Union, 2018, 2019, 2020, 2022; Schütze et al., 2020) and an international customer base. This setting is underrepresented in a literature dominated by Anglo-Saxon and Northern European cases, and the present study helps to fill that gap.

5.7 Limitations of the Research

This study has certain limitations. First, findings are based on only four interviews. Although the participants cover strategically relevant functions and the data are rich and consistent, a larger sample would have brought in further perspectives. In addition, no participant from operations could be recruited. As already explained in Chapter 4, this is because The Ellinikon is still mostly in design and construction, and the researcher had no existing relationships with staff at Lamda's operational shopping centres. The result is that operations-phase views, i.e., building performance during use, tenant behaviour, facilities management, and how certified buildings actually run day-to-day, are less represented than design and construction views.

Second, this study only looks at one company, Lamda. This was a deliberate choice, since the aim was to understand one organisation in depth rather than to draw conclusions that apply to all real estate developers.

Third, all of the documentary evidence comes from Lamda's own disclosures. These are subject to assurance under the CSRD regime and are validated by external benchmarks (GRESB, ATHEX ESG, ISS ESG, CDP), but corporate self-reporting bears the known risks of selective disclosure (Hahn & Kühnen, 2013; Marquis et al., 2016). Even after cross-checking data from the documents with data from the interviews with Lamda staff, the risk of selective disclosure is not completely eliminated.

Finally, the study was conducted at a particular point in time and so the findings would be time specific whilst the external (regulatory) environment is rapidly evolving.

5.8 Contributions and Recommendations

This research contributes to three fields of knowledge. Firstly, this is a Southern European study of a large mixed-use real estate development. In contrast to the vast majority of existing strategy research on large companies that are based in Northern Europe, this single case study provides in-depth insights in how a company's strategy, its governance and its operations are interrelated and translated into practice on a daily basis. This study therefore contributes to the overrepresented number of studies that have focused on large companies in Northern Europe. Building on the work of institutional theorists, such as DiMaggio and Powell (1983) and Suchman (1995), who suggested that, due to external stakeholders (i.e. governments, investors and other organizations), firms are forced to implement sustainability practices and become more sustainable, this study investigates how a large company's sustainability operations and attempts to provide insight into how the company translates its sustainability objectives into practice by employing a multitude of sustainability frameworks, such as the upcoming CSRD requirements, the EU Taxonomy, LEED, GRESB, SBTi and many others. Second, while the vast majority of existing ESG adoption studies are based on quantitative analysis of large datasets (Friede et al., 2015; Whelan et al., 2021), this single case study provides qualitative insights and provides the

reader with a nuanced understanding of the challenges faced by the company under investigation and how these challenges were addressed in practice. Lastly, this study has implications for property developers, investors and policymakers involved in the development of large-scale, long-term real estate projects. Three implications can be made to Lamda Group based on the findings from this research. First, suppliers and contractors would be the main area for Lamda Group's ESG investments as many of the problems found in Lamda Group's value chain could be addressed by training and equipping its suppliers and contractors to meet sustainability goals set by the Group. Incentivizing them within their contracts to achieve the sustainability goals set by Lamda Group would also be beneficial in the long run. Secondly, Lamda Group should speed up the transition from monetary to real measurement of Scope 3 emissions for Categories 1 and 2, in order to enhance the credibility of its sustainability reporting and facilitate comparison between consecutive years. Finally, as the Ellinikon project enters its operational phase, Lamda Group should invest in acquiring skills, as well as in sustainability reporting, for the operation phase of the properties that it manages in order to be able to monitor how they actually perform in use. This would help close the gap between predicted and measured performance (de Wilde, 2014) and give tenants, buyers and investors real numbers to rely on.

This study could be extended in four ways. The first would be a long-term study of The Ellinikon as it moves from construction into operation. The second would be a comparative study across several Southern European real estate developers. The third would be a quantitative study on the pricing of green bonds and how easily Greek and Southern European companies can access sustainable finance. The fourth would be a study that captures the views of operations and facilities-management staff, which this research could not fully cover.

5.9 Conclusion

The purpose of this dissertation is to assess and measure the effectiveness of the company's ESG strategy and practices through the use of case study method. The findings coming from the evidence gathered from the semi-structured interviews with key stakeholders from Lamda Development, and the documentary analysis reveal that ESG is an vital component

of Lamda's corporate strategy and governance practices and is not treated as an add-on or an late addition. In order to deliver on ESG, Lamda has established a robust layered governance structure. Moreover, Lamda has moved its ESG ambitions to concrete performance outcomes, recording a 31,4% year-on-year decrease of greenhouse gas emissions, and demonstrating strong alignment with the requirements of the EU Taxonomy (Lamda Development, 2026).

Successfully executing sustainability can bring a number of tangible benefits including access to green and sustainability-linked finance, cost savings, lessening regulatory and reputational risk, and strengthened stakeholders' relationship. Challenges of executing sustainability include coordinating across the value chain, accurately measuring Scope 3 emissions, managing of costs associated with incorporating sustainable specifications into usual business practices, and managing customers' expectations. This case study outlines a number of unique long-term characteristics of urban regeneration and contributes Southern European insights into an emerging body of literature, which is currently dominated by Anglo-Saxon and Northern European examples.

This research explores how ESG can create long-term value and describes the process of addressing ESG as a strategically integrated, governance-focused process rather than just information generation. The findings are meant to be practical guidance for developers, investors and policy makers in large-scale, long-term development projects with ESG ambitions in the real estate sector.

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Appendix: “Interview Transcripts”

Interview 1

Interviewee: **Danai Frantzi-Gounari - Sustainability Head, Lamda Development S.A.**

Date: 23 April 2026

Location: Lamda Development Ellinikon Headquarters, Greece

ESG Integration and Strategy

Q1. How you see ESG at Lamda Development and why you have chosen it as a development strategy for the company.

For Lamda Development ESG and sustainable development are core elements of the company's business strategy and value creation. Thus, work related to ESG is not limited to projects and reporting activities; it is an integral part of the company's way of planning, investing and managing to contribute in the long term to a positive and sustainable development for human beings, environment, society and economy.

Our commitment to sustainable development is central to the way we carry out our work as a company and our strategy for The Ellinikon project, which is a long-term development project that will be delivered in a sustainable manner and in a credible manner to all stakeholders. There are three key reasons that ESG is a key driver of our business. The first is that it is a key driver of our business. The second reason is that ESG is critical to us in terms of mitigating sustainability-related risks that exist across our portfolio of assets. And the third reason is that we are creating long-term value for all of our stakeholders including our investors, our tenants, the local community and the wider economy. There are a number of other factors that we take into consideration when we are prioritizing our focus on ESG including: the expectations of our investors; the role that ESG-driven capital markets are playing in financial markets around the world and the potential for financial return that this is creating for companies like Lamda Development; the EU and national regulatory requirements that exist for companies in relation to sustainability matters; and the transparency and accountability expectations that exist for companies. Our overall strategy at Lamda Development is to position the company as leaders in sustainable development and ESG is at the core of this strategy.

Q2. How do you translate ESG requirements into project plans and operational activities at Lamda Development?

In Lamda we have 3 levels of implementation for the Sustainability strategy. Level 1 is Board of Directors & Sustainable Development Committee which sets the strategic course for Sustainability at Lamda. Level 2 consists of the Sustainability Strategy & policies which are implemented & monitored on-going by Sustainability Department of Lamda. In Level 3 Sustainability ESG criteria are included in project briefs & project specifications for design, construction & operational phases of projects instead of being added as an afterthought in the various stages of a project.

Sustainability aspects are integrated into project lifecycle. All project briefs and technical specifications for design and construction of a project include ESG requirements. The department responsible for Sustainability monitors all projects throughout their entire lifecycle for integrated Sustainability aspects. Furthermore, the sustainability aspects for investment are

integrated into the investment-governance processes. As such, the ESG/sustainability criteria for investment are taken into account in the capital allocation decision process. The Green Bond issued by Lamda Capital is an example of this link between capital allocation and sustainable investments that are eligible for the Green Bond.

Q3. What are the frameworks or standards that Lamda Development uses to measure and report ESG performance?

Lamda utilizes a number of frameworks and reports on sustainability performance in line with the global Sustainable Development Goals of the United Nations. In relation to disclosure of sustainability information Lamda utilizes provisions of the CSRD as well as the European Sustainability Reporting Standards (ESRS). Information for the sustainability performance of Lamda is also reported against the EU Taxonomy and in line with the ATHEX ESG transparency framework.

In terms of the management systems of the Group and measurement of ESG information, Lamda makes use of the relevant ISO standards. Its real estate assets are certified under leading green building schemes such as LEED, BREEAM and SITES. Targets for decarbonization of the Group have been validated by the Science Based Targets initiative (SBTi). Lamda also makes use of a number of benchmarking tools and participates in the well-established GRESB assessment. The Company's ratings by CDP and by ISS ESG (among others) are also utilized by the investors of the Group in order to evaluate the real estate company, Lamda. Lastly, the Green Bond Framework of Lamda follows the ICMA Green Bond Principles. At a national level, the framework is also in line with the Greek Climate Law.

Benefits and Value Creation

Q4. Are there any financial benefits for Lamda Development as a result of its focus on ESG such as cost savings, enhanced access to green financing, competitive advantages in the market and others?

Yes, Lamda's sustainability strategy brings a variety of financial benefits to the Company. For instance, Lamda enjoys better terms of financing than would be available to an ordinary company, and, most importantly, it gains access to green and sustainability-linked financing, such as the Green Bond it issued and the funds it received from the Recovery and Resilience Facility as well as from bank loans granted to the Group on the basis of its sustainability performance and credentials. In this way, the Group's cost of capital is significantly reduced, while it is also given the opportunity to access a broader investor base.

Sustainable design and operation of properties leads to lowering operating costs and therefore increased value for all our green certified assets. Moreover, the way we conduct our business with ESG practices at the core, provides a competitive advantage to Lamda both in the local and international real estate market. Various international certifications and awards received by the Company confirm its leading position in sustainable real estate in Greece and globally.

Q5. How does ESG helps managing risks, regulatory, reputational or climate-related for Lamda Development?

ESG plays a central role in how we manage three categories of risk. On regulatory risk, our ESG framework keeps us aligned with national and international regulations as they evolve. For example, our work to comply with the CSRD has helped us identify impacts, risks and opportunities in a structured way that is now part of how we plan.

On climate-related risk, the Decarbonisation Strategy is supported by science-based targets validated by the SBTi and aligned with the Paris Agreement's 1.5°C trajectory. We also integrate resilience into our developments through physical climate risk assessments, flood management measures, coastal protection and similar adaptation features. On reputational risk,

transparency and active stakeholder engagement are the main levers; being open about what we are doing, what is working and where the challenges are, builds trust and reduces exposure to reputational shocks.

Q6. What are the impacts of the Lamda's implementation of the ESG criteria on relations with main stakeholders i.e. investors, occupants and local communities?

Lamda Development, through its sustainable approach, enjoys access to more capital. There are more sustainability-related funds established nowadays, and many of them are searching for "quality" sustainability-linked investments.

For local communities impacted by the project Lamda Development targets its actions towards specific groups of society by working with NGOs and other social institutions and furthermore supports vulnerable groups of society. For instance, Lamda Development contributed to the construction of the Building Complex for People with Disabilities at The Ellinikon, a project that was funded by the Company and then handed over to the Municipality. Dialogue with residents is another top priority for the Company as Lamda Development holds structured sessions with local residents to address any issues that may arise during the project's implementation, such as construction related disturbances. The project will also create numerous jobs and support the local economy in the long term. Of major importance to the company are the quality of public space and the promotion of open dialogue with local communities with the aim to ensure that all segments of society are included in the development of the area.

On the tenant and end user side we are seeing a lot of positive effects of the health, wellbeing and indoor environmental quality of the spaces that we are creating, in terms of their performance and productivity in the workplace, and also we see a lot of demand from tenants for sustainable high quality spaces and as a result the assets that we develop are performing very well in terms of occupancy in the long term.

Challenges and Barriers

Q7. What are the challenges of implementing ESG in Lamda Development and could provide examples where those challenges materialized?

Our biggest challenge is to coordinate all the parties involved in the implementation of sustainable development, both internal and external to Lamda. ESG & Sustainable Development Implementation cut across different layers of governance and a large number of stakeholders along the value chain (designers, contractors, suppliers, operators of buildings etc). It is challenging to ensure that all relevant parties are working towards the same goals, implementing the same ESG standards and best practices.

Challenges for Lamda Development are the cost premium of some sustainable solutions and sustainable solutions and materials and the corresponding disruption to business as usual. In addition, there are numerous regulatory requirements related to sustainable development. Large amounts of data have to be collected and reported by means of a large number of KPIs. Building up the required resources in the long term is a corresponding challenge

Q8. What are the challenges for the measurement and disclosure of the ESG performance?

Firstly, the projects at The Ellinikon are at various stages of development. We have many design projects, many under construction and many that are already in operation. Therefore, it is a challenge to manage the data needed to measure their sustainability performance. Secondly, there is a lack of clear, established, widely accepted and consistently applied methods and definitions for measuring and reporting the sustainability performance of a project or a building. Thirdly, and most importantly, there is a challenge in obtaining the relevant data from the parties

involved in the large and complex supply chain of Lamda Development. The quality and availability of data can vary a great deal from one counterparty to another.

Q9. When do ESG goals and other business goals conflict and how you deal with them.

The biggest trade off that we have as a developer is between short term cost and long term value. The best sustainable design and specification can add cost in the short term but deliver huge benefits in the long term. In order to make these types of trade offs we rely on a structured mechanisms such as life cycle cost analysis, and on engaging in stakeholder dialogue, both within the Group and along the value chain of the project. Sustainability is embedded within the governance structures of the Company and within the business strategy of the Group as a whole. Sustainability criteria are formally part of the investment decision making process and Lamda makes active use of green financing which rewards the sustainable option.

ESG in Large-Scale Real Estate Development

Q10. What are the specific ESG characteristics of a large-scale, long-term development (as The Ellinikon) compared to other, more typical, smaller-scale projects?

The main challenge of The Ellinikon is that it is “a city under development”, a city-scale intervention, with infrastructure, public spaces, mobility systems, a city that affects different groups of stakeholders all at the same time and creates a different experience for them than a simple asset under development would.

Interface risks are more pronounced as the large scale sustainable development becomes a city and is composed of many components. Interface risks in large scale sustainable development stem from interfaces of different uses, of different phases of a development and of interfaces with stakeholders. For large scale sustainable development the long investment time frame allows for the design and implementation of large scale solutions, of high magnitude and long time horizon which would not be possible to implement as a single asset or in the framework of a smaller development and shorter time frame.

Q11. What is the Greek market context and the EU regulatory environment like, and how does this influence the ESG approach at Lamda Development?

On the EU side we are following the climate-neutrity targets of the “Fit for 55” package and the broader framework of the European Green Deal. As for the mandatory disclosure requirements for companies listed on EU exchanges, we are working within the scope of the CSRD and the EU Taxonomy for sustainable economic activities. We are also working to fulfill the reporting requirements and to modify our data systems accordingly. All our shareholders and the markets that we are active are predominantly European, and therefore so are the standards we are benchmarked against.

On the Greek side, the regulatory framework is evolving fast and we are benefiting from a market which is advancing fast in the direction of sustainable development. In terms of measuring progress in sustainability, we aim to be leaders in sustainable real estate at a national level. Also, there is good progress being made in terms of energy efficiency of buildings in accordance with the Energy Performance of Buildings Directive. Other relevant instruments for promoting sustainable development are the Greek Climate Law and other similar laws as well as instruments such as KENAK bonus that create additional momentum to the market. Finally, climate change and, in particular, climate change resilience and adaptation are becoming increasingly important for a large-scale development such as The Ellinikon, which is exposed to risks of flooding, extreme temperatures and coastal exposure, among others.

Q12. How Lamda Development can keep consistent to its ESG commitments for a long term project like The Ellinikon, that is expected to last for decades?

A project, which spans several decades, requires more than the will of a single individual to be sustained. It is therefore crucial for us to establish structures, which will support us in implementing our sustainability strategy. Our Sustainability Management System as well as our sustainability governance structures within Lamda Development as well as within our value chain of stakeholders are key elements in this context.

The long-term strategic objectives of Lamda Development are guiding the Group throughout the various project stages. The Strategy objectives of the Group have been translated into design and construction guidelines and into the respective contracts of the various Project Components. Sustainability/ESG requirements are also guiding the Group in the procurement process of the Company, a critical process for a large scale and long term project such as The Ellinikon. The sustainability/ESG performance of the Company is being continuously monitored and reported through a range of KPIs, typical for a sustainability management system. The Group is working within the framework of recognized sustainability guidelines, and is obtaining corresponding certifications, in order to guarantee the external credibility of its sustainability performance. At the same time, the Group is maintaining sufficient flexibility in order to be able to adapt to future evolving standards, requirements and technologies. Such future standards, requirements and technologies will certainly differ from the ones currently in place, and it is the intention of the Group to remain at the forefront of sustainability in real estate development.

Interview 2

Interviewee: Nikolaos Karavotas - Sustainability Manager, Lamda Development S.A.

Date: 27 April 2026

Location: Lamda Development Ellinikon Headquarters, Greece

ESG Integration and Strategy

Q1. How you see ESG at Lamda Development and why you have chosen it as a development strategy for the company.

Our commitment to creating environmentally responsible, socially inclusive and transparent real estate of long-term value for our investors and other stakeholders is at the core of our business model and that of our flagship developments. Our practices are now further influenced by the demands of our growing investors base and the increasingly stringent regulatory environment. The business model of Lamda Development, the flagship projects developed by the company, the profiles of investors interested in the company's assets, as well as the overall business environment in which the company operates, all suggest that in order to create and maintain value in the long term, the company will have to focus on ESG.

Q2. How do you translate ESG requirements into project plans and operational activities at Lamda Development?

The ESG requirements are translated into action at Lamda Development in the following manner: The Sustainability Targets are incorporated into the design briefs of the projects, into the contracts of the suppliers and contractors of the Company and into the daily operation of the under construction and in operation projects of the Company. In addition, the Sustainability Targets are also incorporated into the community engagement activities of the Company and into the Governance Rules and Decision Making Processes of the Company, in order to ensure that the Sustainability Targets are taken into account and become part of the daily decision making on all the projects of the Company.

Q3. What are the frameworks or standards that Lamda Development uses to measure and report ESG performance?

Lamda Development uses a number of frameworks and reporting tools to measure and report its ESG performance for its various projects. Most importantly, the CSRD and the EU Taxonomy, as well as GHG Protocol, the UN SDGs, GRESB, ATHEX ESG guidelines and a number of external ESG ratings.

Benefits and Value Creation

Q4. Are there any financial benefits for Lamda Development as a result of its focus on ESG such as cost savings, enhanced access to green financing, competitive advantages in the market and others?

Yes, we have measured financial value in terms of:

- Access to capital: Green bonds, ESG-aligned investors, improved transparency.
- Lower lifecycle operating costs, lower regulatory risk.
- Competitive advantage: Differentiated assets, stronger demand, long-term value.

- Risk mitigation: Fewer delays, stronger community acceptance.

ESG creates value and mitigates risk for Lamda Development instead of incurring costs.

Q5. How does ESG helps managing risks, regulatory, reputational or climate-related for Lamda Development?

By allowing sustainability to be embedded throughout the entire organization, governance, project design and transparency, Lamda is able to manage a wide array of different risks, including both a number of different types of different regulatory risks, a number of different types of different reputational risks as well as a number of different different types of climate-related risks, both transition and physical. Moreover, other risks that are encountered on a project by project basis can also be mitigated by sustainability measures that are put in place to create climate-resilient and low-carbon assets that not only reduce risk but also unlock access to capital in order to create long-term value for all stakeholders. As an example, early alignment to the CSRD and the EU Taxonomy for sustainability will reduce the risk of non-compliance with future sustainability regulation for The Ellinikon and other future project

Q6. What are the impacts of the Lamda's implementation of the ESG criteria on relations with main stakeholders i.e. investors, occupants and local communities?

The ESG strategy of Lamda Development has a very positive effect upon all stakeholders such as investors, tenants and local communities. On the one hand, it creates great added value to investors as it ensures their trust and provides them with access to long-term financial resources. It also increases the value and attractiveness of a project to potential tenants who follow an ESG strategy. On the other hand, it increases the value of a project of major impact to local communities by strengthening social license to develop and creating tangible benefits and advantages to them. In summary, it increases the value of all stakeholders and creates a winning situation for all of them.

Challenges and Barriers

Q7. What are the challenges of implementing ESG in Lamda Development and could provide examples where those challenges materialized?

In general, there are several challenges that large urban projects such as those offered by Lamda Development face when they set up an ESG system. Such challenges stem mostly from the size of the projects and from the difficulties involved in introducing and implementing sustainability elements in large organizations. Measuring and tracking ESG performance data also means setting up and managing a data system that also needs to be able to increase transparency and lead to increased social participation. The example of The Ellinikon demonstrates how even when a company has established a sound set of policies for dealing with social and environmental risks that are in excess of legal requirements and has ensured that they are implemented on the project site, there may be various types of risks that emerge during the construction phase, which in turn may need to be dealt with through a number of means such as setting up a formal stakeholder engagement plan, setting up public environmental monitoring systems and establishing scientific partnerships, amongst others. In such cases, these elements serve to guarantee the trust of all stakeholders to Lamda Development, and above all, enable the company to keep and maintain its social license to operate.

Q8. What are the challenges for the measurement and disclosure of the ESG performance?

The main challenges that the Company faces in measuring and monitoring ESG performance are those related to the collection and verification of data that can be consistently and accurately monitored across its projects. Other key challenges relate to the accurate measurement of a projects' Scope 3 emissions (particular during the construction phase) and the transition from regular reporting to audit-grade reporting in compliance with CSRD requirements. In order to

transition to such reporting, new systems will be required as well as significant changes to an organization's governance and *modus operandi*.

Q9. When do ESG goals and other business goals conflict and how you deal with them.

For projects under development, there have been cases where the goals set to create value through ESG objectives have come into conflict with other objectives that are important for the business, for example, cost, timing, flexibility in development. In addressing such conflicts, we go through a proper integration of ESG objectives into the project planning phase. It is then important to clearly distinguish between sustainability standards that are non-negotiable and those that are flexible and can be changed during the lifecycle of a project. The trade-offs that are made between ESG objectives and other business objectives are assessed on the basis of a lifecycle value and risk assessment.

ESG in Large-Scale Real Estate Development

Q10. What are the specific ESG characteristics of a large-scale, long-term development (as The Ellinikon) compared to other, more typical, smaller-scale projects?

In the case of the Ellinikon development ESG are implemented as a value-creation and risk-management system for a city-scale, multi-generational project, i.e. a totally different implementation scope than for single-asset ESG implementation for a relatively short term.

Q11. What is the Greek market context and the EU regulatory environment like, and how does this influence the ESG approach at Lamda Development?

The Greek market and EU regulatory framework are two distinct realities that the company is going through in terms of its ESG development. On one hand, the Greek reality is of high visibility and of a concentrated number of stakeholders who demand more and better information and activities in terms of ESG. On the other hand, the EU reality is of increasing ambitious rules of high technical complexity especially in terms of compliance and reporting. In this context, while EU rules set the ambition and form the framework for such ambition, ESG at Lamda functions also as compliance in terms of the aforementioned rules and as a strategic tool for managing and creating value while at the same time creating a competitive advantage in the local as well as international market.

Q12. How Lamda Development can keep consistent to its ESG commitments for a long term project like The Ellinikon, that is expected to last for decades?

We maintain ESG commitments over decades by anchoring them in purpose and governance, embedding them in early irreversible design choices, treating ESG as a living system that evolves with regulations and science, and reinforcing consistency through transparency, stakeholder engagement, and long-term value logic rather than short-term targets.

Interview 3

Interviewee: Markos Zafeiriou - Construction Director

Date: 2 April 2026

Location: Riviera Galleria PMC Offices, Ellinikon, Greece

ESG Integration and Strategy

Q1. How you see ESG at Lamda Development and why you have chosen it as a development strategy for the company.

ESG stands for Environmental, Social and Governance meaning responsible, environmentally friendly and socially correct. We chose to focus on ESG because the government in Greece has decreed that from 2023, all commercial buildings have to comply with certain standards in order to receive a certificate of occupancy. At Lamda, ESG means building responsibly: responsible design, then responsible construction of the building, and finally responsible management of the asset over its lifetime. It is not only a matter of preparing an ESG report, but creating a sustainable building. And given the size of The Ellinikon project, Lamda cannot ignore the environmental and social footprint it will leave. The size of the impact is so large that it cannot be ignored; not only for Lamda's reputation but also by the investors and the end users.

Q2. How do you translate ESG requirements into project plans and operational activities at Lamda Development?

The Sustainability Department gives us specific requirements that go straight into the technical specs and tender documents for each project. Once the project has been handed over to the contractors, we ensure that they understand what is expected of them and that they are delivering the project to the required standard. We monitor this through regular site visits to check progress against the scope of work and holding weekly meetings and monthly progress reports with the contractors.

Q3. What are the frameworks or standards that Lamda Development uses to measure and report ESG performance?

We have set targets for the construction of the individual buildings to achieve LEED-Silver and above with the option to aim for LEED-Gold wherever possible. At the corporate or group level, performance is measured according to certain protocols for real estate benchmarking, but I am not the right person to speak about which specific standards are used at that level.

Benefits and Value Creation

Q4. Are there any financial benefits for Lamda Development as a result of its focus on ESG such as cost savings, enhanced access to green financing, competitive advantages in the market and others?

That is a question better directed to colleagues who are more directly involved with the financial and investment side of the business.

Q5. How does ESG helps managing risks, regulatory, reputational or climate-related for Lamda Development?

The biggest risk management benefit is that we are one step ahead of the regulatory requirements. Since Lamda established its ESG framework several years ago, it is relatively straightforward to stay compliant as new requirements come in. In addition, certifications give credibility and protect the brand's reputation.

Q6. What are the impacts of the Lamda's implementation of the ESG criteria on relations with main stakeholders i.e. investors, occupants and local communities?

The company's ESG performance on development projects, as well as our inclusion in TIME's 100 Most Influential Companies list, are very important to investors and tenants. For the local communities, projects like the Building Complex for People with Disabilities entirely funded by us and handed over to the municipality upon completion, proved extremely important in building trust.

Challenges and Barriers

Q7. What are the challenges of implementing ESG in Lamda Development and could provide examples where those challenges materialized?

For us (construction), the hardest part are Contractors since not all of them are at the sustainability level required by Lamda Development. A very good challenge example would be the groundwater and soil decontamination project; one of the largest of its kind in Greece, done from scratch and, most importantly, with no prior local experience. A team of foreign specialist consultants was brought in from abroad and monitoring processes were created from scratch for this massive project, resulting in expertise creation for Greece.

Q8. What are the challenges for the measurement and disclosure of the ESG performance?

Measuring and Reporting Scope 3 ESG performance metrics provided by large number of contractors, subcontractors and suppliers, some of them measuring and reporting their greenhouse gas emissions, for the first time in their career.

Q9. When do ESG goals and other business goals conflict and how you deal with them.

Yes, generally the main challenge for contractors is the cost of the sustainable materials. These materials are typically more expensive than the conventional ones and this in some cases leads to extended construction time, as contractors try to find the right sustainable materials within the allowed timeframe for the completion of the works. Nevertheless, the management of Lamda is committed in keeping sustainability standards not negotiable.

ESG in Large-Scale Real Estate Development

Q10. What are the specific ESG characteristics of a large-scale, long-term development (as The Ellinikon) compared to other, more typical, smaller-scale projects?

The complexity of such a large-scale long-term development as The Ellinikon is in itself a challenge. As we are currently managing to run many construction sites all being developed by different contractors and all having their own certificates and way of operating on a daily basis, it is a big management challenge to make all of them work in line with the strategy of the overall development and to tackle any problems that may arise in a consistent manner and not in an ad-hoc basis.

Q11. What is the Greek market context and the EU regulatory environment like, and how does this influence the ESG approach at Lamda Development?

That would be best asked to Sustainability Department or Lamda's Senior Management.

Q12. How Lamda Development can keep consistent to its ESG commitments for a long term project like The Ellinikon, that is expected to last for decades?

As ESG requirements are set as a living framework, they must be incorporated in project development from the very start. This way, they will be embedded in all stages of subsequent activities. Naturally, as the industry evolves, the requirements for Lamda's ESG will also change. In this case, the necessary updates will be made to the specifications and contracts of all relevant stakeholders.

Interview 4

Interviewee: Marilena Kaplantzi - Senior Tenant Coordinator Manager

Date: 7 April 2026

Location: Lamda Development Ellinikon Headquarters, Greece

ESG Integration and Strategy

Q1. How you see ESG at Lamda Development and why you have chosen it as a development strategy for the company.

From our perspective, ESG means creating spaces and projects where people want to live, work or visit. ESG means energy efficient buildings. ESG means green building certified under LEED. ESG green spaces within the project areas. That is what we are trying to achieve at Lamda Development. We try to meet our clients' expectations. And they are willing to pay for ESG.

Q2. How do you translate ESG requirements into project plans and operational activities at Lamda Development?

The ESG requirements have an impact on the way we design our projects, how we select architects, what are the certification goals that we pursue. What I mean by that is that the ESG commitments are embedded in the offer that we communicate to the tenants or to the residential buyers of homes at our residential projects.

Q3. What are the frameworks or standards that Lamda Development uses to measure and report ESG performance?

LEED is probably the most known method of measuring the ESG performance of a project or a company, and it is often requested by clients of Lamda Development.

Benefits and Value Creation

Q4. Are there any financial benefits for Lamda Development as a result of its focus on ESG such as cost savings, enhanced access to green financing, competitive advantages in the market and others?

Yes, ESG creates financial benefits for us. We have seen this in our client conversations with regards to The Ellinikon homes where buyers are willing to pay a premium for LEED certified buildings with sustainable design features. Also, in relation to the Metropolitan Park and the Metropolitan Park itself. On the commercial side, retail tenants are willing to pay a premium for spaces in sustainable developments and also tenants of commercial spaces are willing to pay a premium for spaces in sustainable developments.

Q5. How does ESG helps managing risks, regulatory, reputational or climate-related for Lamda Development?

The strong ESG credentials of The Ellinikon Project allow us to tackle and manage the Reputational Risk associated with the development of such a high profile project. The project has received a lot of publicity and there are many people monitoring its progress and evolution. We believe that highlighting the many sustainable aspects of The Ellinikon, including the

features that led to the LEED certification of the development, as well as the many ‘green’ features that are included in the design of the development, such as the Metropolitan Park, the long coastline and many ‘green’ spaces, helps to generate a lot of credibility with both our clients and the wider community at large. Furthermore, community based projects, such as the sports park and the building complex for people with disabilities, are of particular interest.

Q6. What are the impacts of the Lamda’s implementation of the ESG criteria on relations with main stakeholders i.e. investors, occupants and local communities?

Comments from stakeholders on sustainability issues at new developments have become far more sophisticated of late. When we are marketing residential properties and commercial space to potential tenants, they are no longer simply interested in a basic specification for a building. They are increasingly interested in a range of sustainability issues: how much energy a building is expected to consume; what sustainable design features the building has been designed with; what sustainability certifications the building has received (e.g. LEED Gold); what green spaces there are in and around the building; what access there is to local parks and to a coastline. And of course the Metropolitan Park and the coastline around The Ellinikon development form a central part of this sustainability offering. In terms of the specific design of individual sustainable buildings, a number of innovative design options have been incorporated into the development.

Challenges and Barriers

Q7. What are the challenges of implementing ESG in Lamda Development and could provide examples where those challenges materialized?

High sustainability standards mean more time and more money. Clients are very excited about the vision; we are presenting them with a long-term-vision and it’s very hard to keep them patient during the long development-process of a project like ours.

Q8. What are the challenges for the measurement and disclosure of the ESG performance?

This is a better question for our Sustainability Department. We try to transfer the ESG performance of a project to the clients in a relevant and sufficient manner and not just by referring to the technical data and the reporting that has been done for a project.

Q9. When do ESG goals and other business goals conflict and how you deal with them.

Nothing that I am aware of.

ESG in Large-Scale Real Estate Development

Q10. What are the specific ESG characteristics of a large-scale, long-term development (as The Ellinikon) compared to other, more typical, smaller-scale projects?

The biggest challenge in large-scale long-term development projects is to manage a complex range of different stakeholders with different expectations. The stakeholder mix for The Ellinikon project is perhaps one of the most complex of any large-scale development project in Greece, including residential buyers, international retail stores, hotels, marina users, and local communities. All these groups have their own set of sustainable development expectations and requirements that need to be managed effectively.

Q11. What is the Greek market context and the EU regulatory environment like, and how does this influence the ESG approach at Lamda Development?

International clients of Lamda, especially from Northern Europe, bring along their high ESG expectations. Therefore, we are forced to go beyond what the local market requires for a project of this scope and nature.

Q12. How Lamda Development can keep consistent to its ESG commitments for a long term project like The Ellinikon, that is expected to last for decades?

A large scale project that spans over decades has the chance to evolve over time before the end of its life. As a result, the ESG targets of a project, similar to a market's needs and the targets that are pursued by it, can evolve and be continuously boosted as these are reviewed and revised within the framework of the updated sustainability targets of the project, from time to time. Thus, the key to maintaining consistency is the ability of the developer to periodically raise the targets.

Author's Statement:

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