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School of Business and Management
Business Administration
Master in Strategy, Innovation and Sustainability

Master's Thesis

Environmental sustainability drivers in Finnish residential real estate investments

1st Supervisor: Professor, D.Sc., Kaisu Puumalainen, LUT
2nd Supervisor: Post Doctoral Researcher, Ph.D., Timo Leivo, LUT
Ville Vänttinen
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ABSTRACT

Author:	Ville Vänttinen
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Built environment generates almost 40 percent of world's carbon oxide emissions and uses over 30 percent of energy production. Companies who are operating in the industry must be in charge of fighting against climate change. This thesis aims to study what are the drivers that make professional real estate investors willing to demand environmental sustainability within their investments. Research is based on earlier literature about the investment drivers and the financial and business implications of corporate social responsibility. Empirical part is carried out as a qualitative multi-case study that composes interviews from six real estate professionals from four organizations. Interviews are analyzed with cross-case analysis to find the drivers and to understand the investment decisions and factors behind those.

The study shows how these companies see environmental sustainability matters crucial to their business and are willing to invest in more sustainable solutions. It points out the most important drivers that encourage investors with sustainability matters and identifies the environmental sustainability variables that are meaningful for the investors.

TIIVISTELMÄ

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Rakennettu ympäristö tuottaa lähes 40 prosenttia maailman hiilidioksidipäästöistä ja käyttää yli 30 prosenttia energiantuotannosta. Alalla toimivien yritysten on osaltaan oltava vastuussa ilmastonmuutoksen torjunnasta. Tämän tutkielman tarkoituksena on selvittää, mitkä tekijät edistävät sitä, että ammattimaiset kiinteistösijoittajat vaativat kestävän kehityksen ratkaisuja sijoituksissaan. Tutkimus perustuu aikaisempaan kirjallisuuteen näistä kannustimista ja yritysvastuusta liiketoimintaan vaikuttavana elementtinä. Empiirinen osa toteutettiin kvalitatiivisena monitapaustutkimuksena, joka koostuu haastatteluista sisältäen neljän kiinteistösijoitusorganisaation kuusi työntekijää. Näiden haastattelujen analyysilla pyritään löytämään vastuullisuuteen kannustavat ajurit sekä ymmärtämään sijoituspäätösten taustalla olevat tekijät.

Tutkimus osoittaa, että tutkimuksen kohteena olevat yritykset pitävät ympäristövastuuasioita merkittävinä liiketoiminnoissaan ja ovat valmiita investoimaan kestävämpiin ratkaisuihin. Tutkimus tuo esiin tärkeimmät ajurit, jotka kannustavat sijoittajia kestävyysasioissa ja tunnistaa ne ympäristövastuun elementit, jotka ovat merkityksellisiä sijoittajille.

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When writing these final words, it feels like I just started my journey in LUT. Back in 2014 I decided to apply to LUT School of Business and now I am more than happy to say that it was one of the best choices in my life. I still remember the first evening in my ‘’new and shiny’’ student apartment where I thought that maybe this wasn’t the right choice. These thoughts got thrown away immediately when the freshman week started and from there began a journey that I can now look back with a smile on my face. First, I want to thank all the great people from LUT who I can now call my lifelong friends and who made this journey unforgettable.

Second, I want to thank my supervisors, Professor Kaisu Puumalainen and Post Doctoral Researcher Timo Leivo for the help and feedback during this thesis process. Writing the thesis and working full time wasn’t an easy task so thank you for the support and guidance during these last months.

Finally, I want to thank my family for your endless support. To my mom and dad, there are no words to describe how grateful I am for all the wise words and love throughout these years. So just to inform you, your son has officially graduated.

In Helsinki, 14.6.2021

Ville Vänttinen

LIST OF ABBREVIATONS

CSR	Corporate Social Responsibility
GDP	Gross domestic product
LEED	Leadership in Energy and Environmental Design
ESG	Environmental, social and corporate governance
CEP	Corporate environmental performance
CFP	Corporate financial performance
EEO	Equal employment opportunity
BREEAM	Building Research Establishment Environmental Assessment Method
NOI	Net Operating Income

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1. INTRODUCTION

This master's thesis studies sustainability, especially environmental sustainability, as a part of investment decisions in Finnish residential real estate markets. First part of the thesis acts as a pathway to the Finnish real estate investment markets and composes earlier research about CSR and sustainability drivers in investments and as a business case. Second part focuses on empirical research and consists interviews from biggest residential real estate investors in Finland. Through these interviews, this thesis aims to provide a clear understanding about the drivers and requirements that effect on investors' willingness to invest in sustainable solutions.

This chapter states the motives and background behind this thesis and presents the research questions, theoretical background, and research methods.

1.1. Motives and background

Sustainability actions in real estate have gained a lot of attention in recent years both in research and business worlds. As Falkenbach et al. (2010) envisage in their article, further research is needed to identify investors' corporate and portfolio level drivers and benefits, which forms the heart of this thesis.

According to World Green Building Council's Net Zero Status Report (2020), built environment, including residential and commercial real estate, use 36 percent of world's energy production and generate 39 percent of carbon oxide emission, making it the largest sector contributing to climate change. This factor alone makes both people and companies working in real estate accountable for implementing new solutions to their activities in terms of restraining climate change.

Also in Finland, real estate sector uses over 30 percent of energy production (KTI, 2020a) and in addition to environmental impacts, energy consumption, as

well as other environmental sustainability related issues, effect on real estate owners' economical returns. Maximizing returns are in most cases the number one object for professional real estate investors and it is recognized that optimizing environmental sustainability may include different drivers, such as increased rental levels and property value, that encourage investors to implement sustainability criteria in their early-stage investment evaluation. (Falkenbach et al. 2010).

Residential buildings cover 64 percent of Finnish built environment and the total value of these buildings was approximately 320 billion euros in 2019. From the whole residential value, apartment buildings covered approximately 45 percent, making it the largest asset class of all real estate. (ROTI, 2019) As an individual sector, real estate generates 10,5 percent of gross domestic product's incremented value that is approximately 13,9 billion euros and after trade sector, real estate is the second largest industry measured with GDP incremented value. (Rakli, 2014)

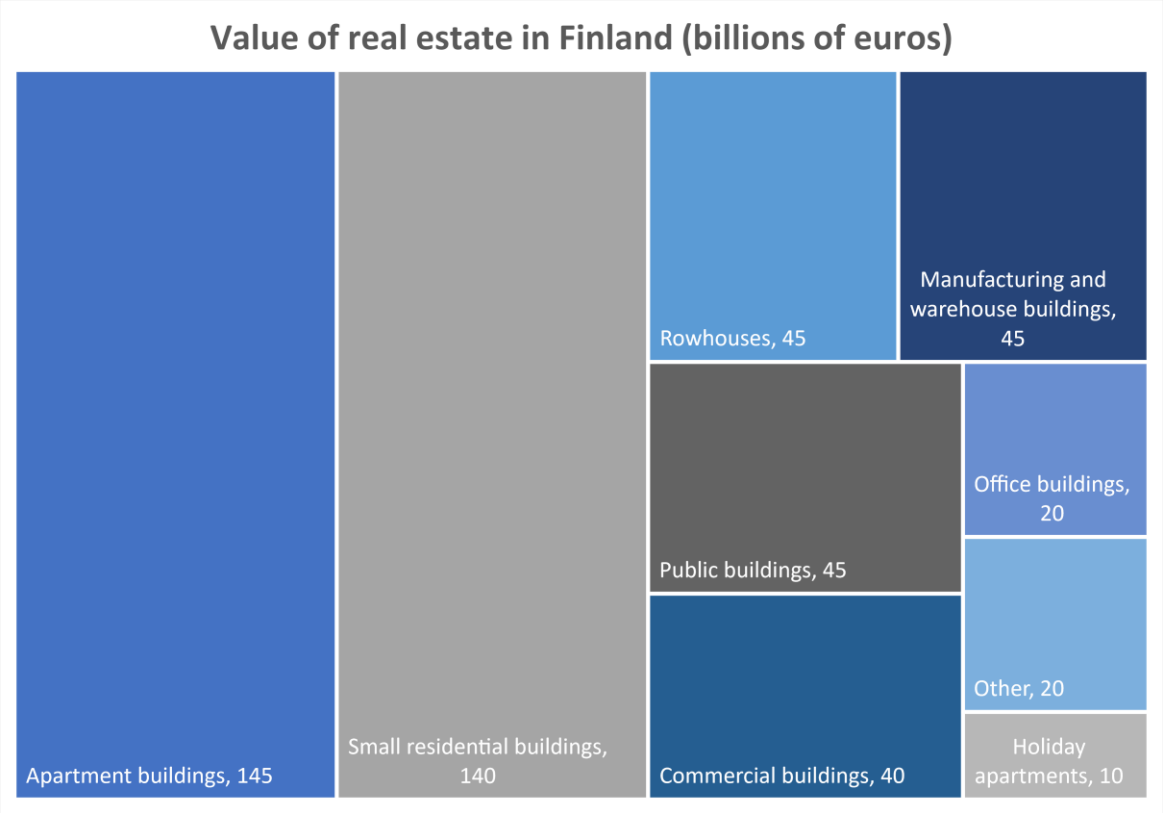

Figure 1. Value of Real Estate in Finland

In 2018 the value of professional real estate investments in Finland was approximately 70 billion euros where from residential buildings covered 29 percent. This means that approximately 20 billion euros was allocated to residential real estate investments. As these numbers show, built environment forms a significant asset class in Finland.

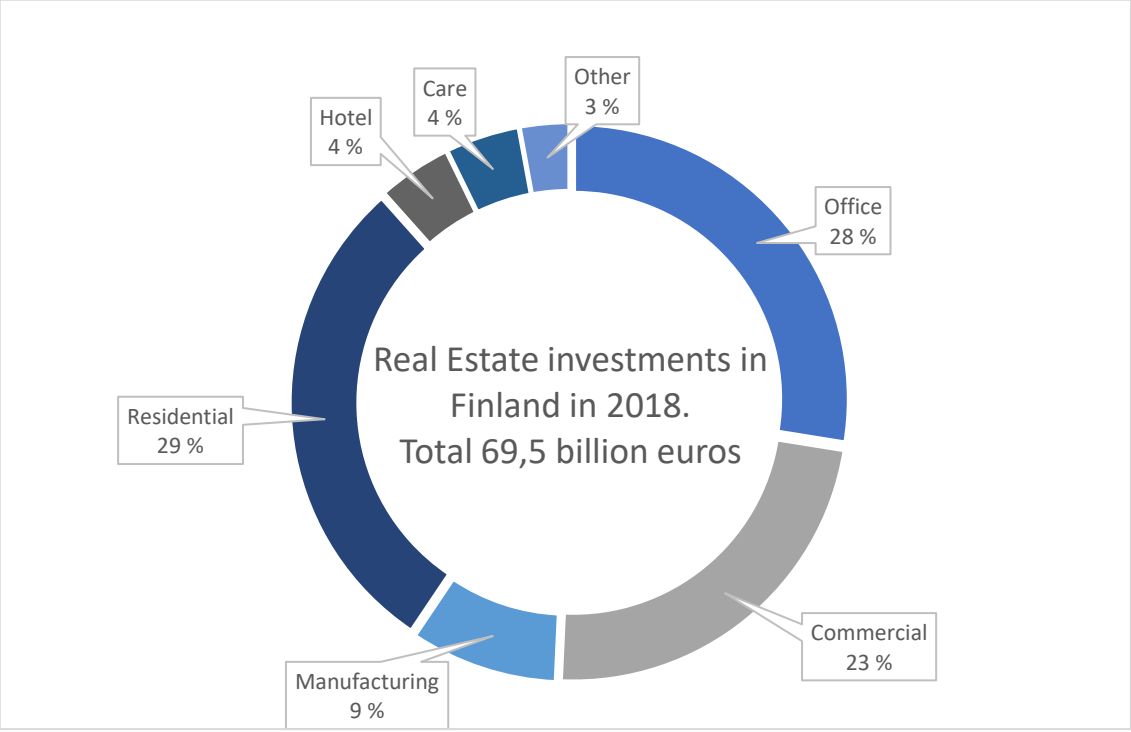

Figure 2. Real Estate investments in Finland

To be able to develop and implement new and more efficient ways to restrain climate change, it is crucial that professional operators consider these in their early investment evaluation stage. It still demands that investors gain profit premium or other investment incentives to apply these solutions to their investment requirements. This thesis aims to examine, what these incentives may be, how investment evaluation and investment decision making process goes, and how investors see the future development of sustainability real estate sector.

Next chapter introduces research questions and objectives of this thesis.

1.2. Research questions and objectives

The target of this research is to understand how professional investors value environmentally sustainable solutions in residential real estate portfolios, what are the drivers for them to invest in these solutions and how they see the future

of sustainability in residential real estate. Earlier research is mainly focused on the actual solutions and their technical attributes as well as their expenses but does not pay that much attention on the business especially in residential real estate. Also, earlier research includes more empirical evidence from commercial buildings where green building certificates, such as Leadership in Energy and Environmental Design-certificate (LEED-certificate), have been more generalized than in residential buildings.

Earlier literature is utilized to understand what has already been discovered from environmentally sustainable buildings and what kind of investment incentives have been identified that in addition to potential profit premiums may encourage investors to value environmental sustainability in their investment decisions.

Main research question:

What are the drivers that encourage investors to value environmental sustainability in their corporate and investment level actions?

Sub questions:

How is sustainability valued in investment strategy and process?

How investors see the future development of environmental sustainability in residential real estate?

Empirical part of this thesis is based on qualitative methods and includes interviews from the largest residential real estate investors in Finland. Empirical part aims to answer the questions, that were introduced above, from investors' viewpoint.

1.3. Limitations of the research

The core of this master's thesis is focused on examining the valuation and drivers of environmental sustainability in Finnish residential real estate investments. As mentioned earlier, green buildings and sustainable solutions in technical level have been more studied but this thesis focuses especially on the business side and investors' drivers in their investment evaluation. This thesis is limited to Finnish markets and focuses only on professional investment operators and does not consider private small-scale investors.

As it is generally known, sustainability in overall can be divided to environmental, Social and Governance (ESG). Built environment has a significant impact for example on social sustainability in urban development and real estate as a sector must pay attention to all these categories. However, this thesis focuses only on the environmental dimension and does not examine what solutions are the best in terms of environmental sustainability but aims to solve the business incentives behind environmentally sustainable investments.

1.4. Theoretical framework

Continuing from Falkenbach et al. (2010), theoretical framework composes the core thought of this thesis; to emphasize environmental sustainability in investment decisions, operators need to benefit from their decision to invest in environmentally sustainable solutions. These positive drivers may be economical or non-economical, but they need to have a positive effect on investors investment performance. As Yoshida and Sugiura (2015) state, if green factors are associated with a large price premium in condominium prices or rents, it serves as a monetary incentive for private operators in addition to corporate branding and social responsibility.

For example, in the case study of a global investment bank Goldman Sachs, Keenan (2016) describes how Goldman Sachs's different sustainability actions within their real estate was evaluated as bottom-line implications and represented as savings of cents per square foot. It was then verified how these minimal savings aggregated to enormous savings on portfolio level.

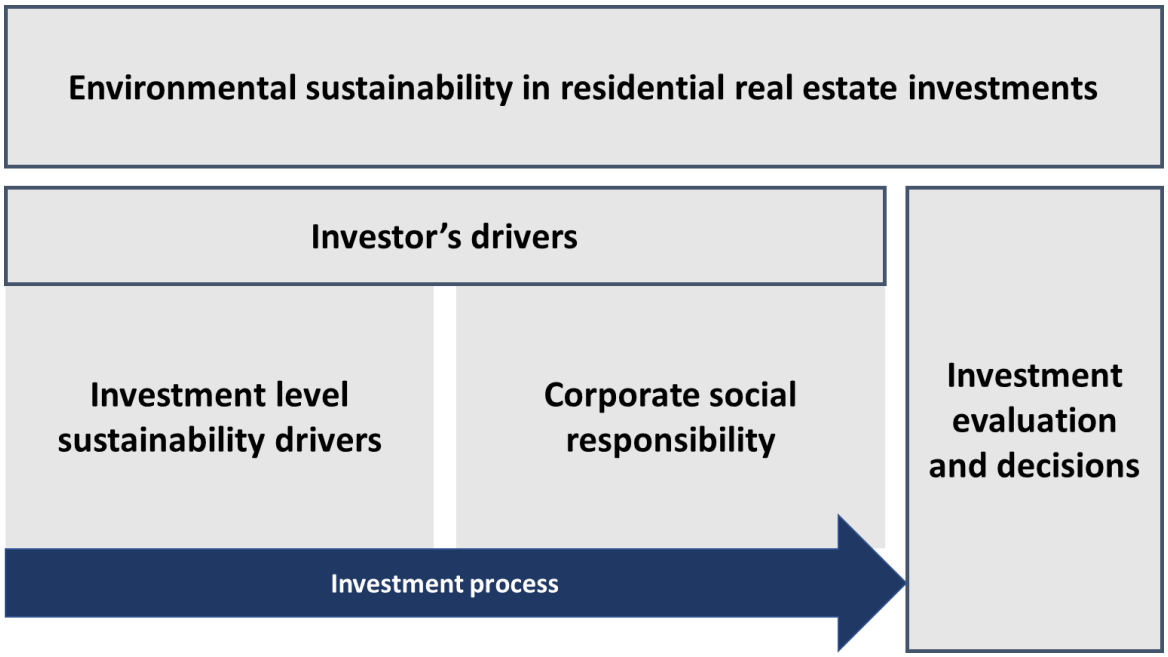

Figure 3. Theoretical framework of the thesis

The purpose of the theoretical part is to examine investment decision process in real estate in general level.

1.5. Structure of the research

This thesis is organised as follows: Next chapter examines earlier research about investment decision making process in general level and drivers behind these decisions.

Second half of this thesis focuses on the empirical study and aims to answer the research question. Qualitative cross case analysis is done based on the interviews. Then, results are introduced and discussed with implications to

earlier research. Lastly, limitations and further research possibilities are also discussed.

2. INVESTMENT DECISION MAKING PROCESS

This chapter focuses on investment decision making process in real estate in general level and introduces how investment decisions are made by professional investors. It aims to provide a basic information about the structure of decision-making process in real estate investments. As the main research questions aims to provide answers to the sustainable investment drivers, it is important to understand, how investors make their investment decisions and what are the variables that they analyze behind these decisions.

In their research, Farragher & Savage (2008) notice that based on earlier research it seems that real estate investment decision-making processes and practices have not evolved much over the past decade. They also continue how good real estate investment decisions are in most cases based on applying wide experience, good general judgment, and creativity in a sophisticated decision-making process.

To bring this ‘’sophisticated decision-making process’’ into practice, Hartigay and Yu (1993) describe the most important steps during a common investment decision-making process as follows.

1. Definition of purpose and objectives of the real estate portfolio.
2. Formulation of a specified strategy and their selection/assessment criteria.
3. Assessment of individual projects against the predefined criteria and strategy.
4. Closer examination of projects that meet return and risk profile.
5. Closing the investment decision and implementation of actions.
6. Post auditing and optimizing.

Based on Hartigay and Yu’s research, Bispinck (2012) reviews the real estate investment decision making process and with these six steps and his survey for

the largest real estate investors in United Kingdom, he highlights that the assessment or so-called dealing stage, where individual projects are evaluated based on predefined criteria and strategy is the most important in the decision-making process.

Parker (2014, 2016) investigates property investment decisions and based on earlier research, Parker summarizes the previous six-stage model to a four-stage, twenty-step normative model as follow:

1. “a defining or strategic stage where the property investor articulates where it is aiming to be, the manner by which it may get there and how it may know when it has got there – which may be described as the envisioning stage;
2. an opportunity screening, measuring or analysis stage where the property investor expresses its target position in terms of potential properties for acquisition – which may be described as the planning stage;
3. an evaluating or assessing and deciding stage where the property investor converts potential properties for acquisition into an in-principle transaction – which may be described as the dealing stage;
4. an implementing and auditing stage where the property investor undertakes due diligence, documents the transaction, secures approvals, settles and audits the transaction – which may be described as the executing stage.”

This model is used to take a closer look to these individual stages that are introduced in the Table 1.

Table 1. Normative model of the property investment decision-making process (Parker, 2014)

Stage	***Step***	***Step***	***Step***	***Step***	***Step***
Envisioning	Vision	Style	Goals	Strategic plan	Objectives
Planning	Property portfolio strategy	Strategic asset allocation	Tactical asset allocation	Stock selection	Asset identification
Dealing	Preliminary negotiation	Preliminary analysis	Structuring	Advanced financial analysis	Portfolio impact assessment
Executing	Governance decision	Transaction closure / documentation	Due Diligence	Settlement	Post audit

2.1. Envisioning stage

Envisioning stage draws the big picture for real estate investors' decision-making process. First step of this stage is vision, where investors state where they are aiming to be.

Envisioning stage also specifies the style and form of active management and sets the goal or goals that measure the steps towards the bigger vision. It also consists strategic planning and objective setting that build up the ground for investors to execute their strategy and achieve their goals. (Parker 2014, 2016)

Envisioning stage can be described as a strategic analysis and strategic investment goal setting stage that helps to search and focus on correct investment options in later stages. In their research, Farragher and Savage (2008) underline how over 80% of their research group have clear investment

goals and strategy. Earlier study, performed by Farragher and Kleiman (1996), also tells how most of the acquisition specialists in study's research companies do not start their investment opportunity research process before companies' investment strategy is clearly specified.

2.2. Planning stage

Planning stage links investment companies' vision to operational real estate portfolio and aims to generally define the objectives set in envisioning stage more precisely. (Bispinck, 2012)

Bispinck (2012) and Parker (2014, 2016) describe how in this stage, concrete guidelines for analysis and investment search are established and individual portfolio strategy is set to be able to perform strategic asset allocation. With strategic allocation to different real estate sectors and geographical locations, investors seek quantitative and more theoretical optimal weights between different real estate classes in their investment portfolio.

According to Parker (2016) tactical allocation is also applied to find potential outperformance in short-term with underweight and overweigh asset class decisions compared to strategic allocation where optimal weight is balanced in more long-term approach.

Planning stage also implements stock selection and asset identification to the investment process. Stock selection determines individual criteria that specifies if certain assets are suitable for the portfolio. Asset identification extends this evaluation and aims to identify potential real estate assets in wide range that meet the earlier stock selection criteria and based on those could be suitable for closer evaluation and finally for acquisition. (Parker 2014, 2016)

2.3. Dealing stage

Dealing stage aims to find the most suitable assets based on earlier stages and evaluate and decide if property investor moves further to transaction process with a final objective to acquire individual assets. (Bispinck 2012, Parker, 2014) According to Bispinck (2012), the core of this stage is forecasting and evaluating all essential investment criteria for example return - risk profile and legal and tax matters.

First step of this stage is preliminary negotiation that can be described as a process of conducting a short list of most potential assets from broad group identified in the earlier planning stage. From preliminary negotiation, decision-making process in this stage proceeds to preliminary analysis that is a simple analysis executed for each individual property targeted for acquisition. Also, structuring is done to form a good understanding of commercial and financial terms of the possible transaction and to ensure necessary fundaments for further and detailed financial analysis. (Parker, 2016)

Last steps before the final executing stage concentrate on financial decision-making practices on asset and portfolio level. Advanced financial analysis aims to identify potential mispricing to be able to gain abnormal returns compared to effective market situation. Also, portfolio impact assessment is performed to determine the impact of individual real estate transaction and financing decisions on the portfolio level. (Parker 2014, 2016)

2.4. Executing stage

Last stage of a general real estate investment process is Executing stage, which aims to the investment decision and transaction closure. (Bispinck, 2012) To be able to execute the actual transaction, investment needs to be formally accepted by the relevant decision makers. This acceptance is the first step of the stage

and is based on earlier analysis and evaluation criteria. If this step is passed and investment is accepted, last two steps before the final transaction are transaction closure/documentation and due diligence process. (Parker, 2014)

Transaction closure/documentation can be defined as ‘’iterative process of negotiation and documentation of the transaction with the vendor’’ practically meaning that final negotiations between buyer and seller are organized and all required documentation, including the actual contract of sale and essential background material, are composed. (Parker 2014, 2016) Due diligence process verifies all the earlier information that decisions and assumptions are based on. (Parker, 2016) Information and documentation, including for example legal, tax, financial, technical and environmental matters, are mostly provided from seller’s side so due diligence may be generally described as buyer’s inspection (Just and Stapenhorst, 2018).

Executing stage reaches its principal objective after final negotiations and due diligence process when the actual transaction can be executed. This step is known as settlement, where the actual exchange of capital in return property ownership, including rights and responsibilities, is carried out between buyer and seller. After the transaction, there is of course need for post audit actions to make sure that assumptions and analyses that were made in earlier stages were correct. (Bispinck 2012, Parker, 2016) With post audit actions, real estate investment decision-making process can be described as continuous learning process where previous investment decisions create higher probability for even better analysis and decisions in next investment targets. For example, Hartigay and Yu suggested already in 1993 that this process should be seen as circular to optimize investment decisions through continuous learning.

3. SUSTAINABILITY DRIVERS

Previous chapter covered investment decision-making process in real estate in general level. This chapter continues from there and aims to deepen the knowledge about the drivers behind these investment decisions. The purpose of this chapter is to understand what are the drivers that encourage investors to invest in environmentally sustainable real estate. This chapter also seeks to examine if there are some drivers that prevent investors from investing in environmental sustainability and aims to brighten the understanding about the determinative drivers that make the difference in investors' decision-making process.

First part of this chapter focuses on sustainability as a business case in general and aims to present earlier studies about sustainability actions impacts on firms' performance. Second part of this chapter focuses on the actual investment drivers in real estate and is structures in the same way as Falkenbach, Lindholm and Schleich's (2010) article ''Environmental Sustainability: Drivers for the Real Estate Investors'' which divides the drivers to three; External Drivers, Corporate Level Drivers and Property Level Drivers and suggests that further research especially about corporate and property level drivers is needed. This chapter works as a guidance for the later empirical section.

3.1. Sustainability as a business case

Carrol defined already in 1979 that the social responsibility, also known as corporate social responsibility (CSR) includes the economic, legal, ethical and disrectionary expectations from society towards business organizations. (Carroll, 1979) But what does it really mean for organizations, is there a business case in CSR?

Zadek (2000) composes companies' objectives with CSR strategies and states that with active CSR strategies, companies aim to defend their reputation, justify

benefits over costs, integrate with their broader strategies and learn, innovate and manage risk. Overlapping Zadek, Kurucz et al (2008) also identify four general types of CSRs business cases;

1) cost and risk reduction
2) gaining competitive advantage
3) developing reputation and legitimacy and
4) seeking win-win outcomes through synergetic value creation.

3.1.1. Corporate social responsibility and corporate financial performance

Dixon-Fowler et al. (2013) compose earlier research about corporate environmental performance (CEP) and corporate financial performance (CFP) in their meta-analysis article. Based on this extant review, they see that CEP and CFP generally have a positive relationship. Also, Lee (2008) describes how CSR theories indicate tighter coupling between CSR and organizations' financial goals and how the focus has shifted more from ethics orientation to a performance orientation, with a primary question of what organizations get out of CSR. (Carroll et al., 2010)

Milton Friedman told already in 1962 how ‘’management has one responsibility and that is to maximize the profits of its owners or shareholders’’. This classical economic argument is mostly used against CSR and some findings still argument against CSR's positive effects on organizations' financial performance. These are mostly concluded from Friedman's statement and believe that costs of environmental performance exceed the gained financial benefits. Bragdon and Marlin also stated already in 1972 how improving environmental performance just means that organizations' transfer societal costs to private organizations.

These views have led to a contingency approach with basic research stream ‘’does it pay to be green?’’ which has moved more to a deeper and strategic

question ‘’when does it pay to be green?’’. (Dixon-Fowler et al, 2013) Despite some mixed results, most of the research, including meta-analytical results, show positive relationship between CSR or CEP and CFP. (Orlitzky et al. 2003) Major arguments within this positive relationship describe how environmental performance also shows organizations’ focus on innovation and operational efficiency, reflects strong organizational and management capabilities, strengthens organizational legitimacy and helps organizations to meet the needs of various stakeholders. (Porter and Van der Linde 1995; Hart, 1995; Freeman and Evan, 1990) To conclude these, general point of view is that good CSR (or CEP) practices generate long-term shareholder value, and these are developing towards core business functions that are in the core of strategy work and crucial to organizations’ success. (Carroll and Shabana, 2010)

3.1.2. Cost and risk reduction

Cost and risk reduction with CSR arguments how implementing CSR-practices to organizations’ activities reduces costs and risks in organizations’ operations. (Carroll and Shabana, 2010) Porter and Van der Linde (1995) noted how pollution is a waste of resources and represents unnecessary costs for the firm. Smith (2005) also states in his research how equal employment opportunity (EEO) policies and environmental responsibility sustain long-term shareholder value with cost and risk reduction.

CSR activities targeted towards natural environment have also been seen reducing costs and risks. Many researchers, e.g., Berman et al. (1999) and Hart (1995) state that proactiveness with environmental issues leads to lower costs and risks. Berman et al. (1999) conclude how proactive environmental CSR activities enhances organizations’ efficiency, lowers operational costs and helps organizations to succeed under current and future regulation environment. In actual business world, CSR has gained a lot of endorsements. In their survey (Fortune, 2003) PricewaterhouseCoopers (PWC) found that 73 percent of the

respondents replied that cost savings were within the top reasons why companies are putting more efforts to CSR activities.

3.1.3. Gaining competitive advantage

Gaining competitive advantage considers how organizations can use active CSR practices to stand out from their competitors and gain long-term competitive advantage. (Carroll and Shabana, 2010) Arguments towards active CSR state how these activities result stronger competitiveness and for example Smith. N (2003) argues how organization's CSR-strategy leads to competitive advantage on long-term if it is carefully conceived and unique.

According to earlier studies CSR-activities may, besides standing out from competitors, help organizations to build stronger relationships with their customers. For example, Pivato et al. (2008) note how CSR enhances brand loyalty. Besides customer loyalty, CSR may also help organizations attracting investments and new funding that enables organizations to succeed on long-term. Earlier research shows how large, institutional investors tend to avoid companies and industries that do not meet with their mission, values, or principles. (Smith. T, 2005)

3.1.4. Developing reputation and legitimacy

Arguments supporting legitimacy and reputation development through CSR express how organizations can elevate their legitimacy and strengthen their reputation with active CSR. (Carroll and Shabana, 2010) It is also stated in earlier studies how CSR helps organizations to attract consumers, investors, and employees. Research shows how CSR reputation effects on consumers purchasing decisions. (Smith. N, 2003)

Also, CEP can be a reputational benefit that leads to social legitimacy, ability to attract but also retain good employees and increased sales. (Hart, 1995; Turban and Greening, 1997; Russo and Fouts, 1997)

3.1.5. Seeking win-win outcomes through synergetic value creation

Seeking win-win outcomes through synergetic value creation aims to improve organizations' competitiveness and meet the needs of their various stakeholders. (Carroll and Shabana, 2010) Porter and Kramer (2002) give an example of charitable giving for education that may improve organizations' access to more qualified human resources. Charity work may also maintain ''sophisticated and demanding customers'' on local level.

The win-win aspect of CSR-activities aims on satisfying different needs of organizations stakeholders while helping the organization on its business operations and CFP. With stakeholder satisfaction, organizations may find opportunities that help them sustain profitability and gain stakeholder trust. This aspect aims to provide solutions that enable organizations to meet and achieve their own goals but at the same time stakeholders to fulfill their requirements. (Carroll and Shabana, 2010). Earlier studies, for example by Freeman and Evan (1990); Marcus and Geffen (1998); Sharma and Vredenburg (1998), have stated how instrumental stakeholder theory demands that to be successful, organizations must achieve the needs of their different stakeholders, including environmental, employee, and societal groups.

3.1.6. Sustainability as a business case, summary

CSR covers sustainability in business with wide point of view and gives a clear understanding of how CSR has become a vital part of organizations' strategy. CSR as a business case leans to the factors that provide a clear justification for these actions from economic and financial standpoint. Even when the acceptance towards CSR has been positively evolving there still is some

criticism that has to be considered. Mintzberg stated already in 1983 how organizations are rewarded from CSR to just certain point and after this, the market economy will stop rewarding it. (Carroll and Shabana, 2010)

Arguments supporting CSR as a valid business case show how these activities profit financial end economic value to organizations. Broad view of the business case justifies CSR if it gives direct and indirect links to organizations operational performance. (Carroll and Shabana, 2010) Through these views, CSR's benefits can be divided into four categories: reducing cost and risk, strengthening legitimacy and reputation, building competitive advantage and creating win–win situations through synergistic value creation. (e.g., Kurucz et al. 2008) As Buchholtz et al. (1999) stated, the business case for CSR is evaluated through economic rationale and is proven if it increases shareholder returns. Still, it must be remembered when evaluating CSR that it is not generic and efficient CSR demands adequate strategy. (N. Smith 2003; T. Smith, 2005)

3.2. Investment drivers

As mentioned already before, a lot of research considering sustainable real estate in general has been done but property level and portfolio level examination especially about the investment drivers has been missing. (Falkenbach et al, 2010) This thesis focuses especially on the business side and aims to bring up the investor perspective for sustainable solutions.

Keeping (2000) states how adoption of sustainable principles has been slowed down because of the expectation about higher construction costs compared to ‘’normal’’ buildings, missing evidence about sustainable buildings' financial benefits and uneven allocation of costs between investors and users. Earlier research still shows that sustainable buildings generate different benefits with e.g., better energy efficiency and lower environmental impacts. Studies from Cushman and Wakefield (2007, 2009) and JLL (2008) tell how tenants may pay

higher rents from more sustainable buildings but Falkenbach et al. (2010) ask for evidence that it really happens and, in their paper, classify the investment drivers as shown in Figure 4.

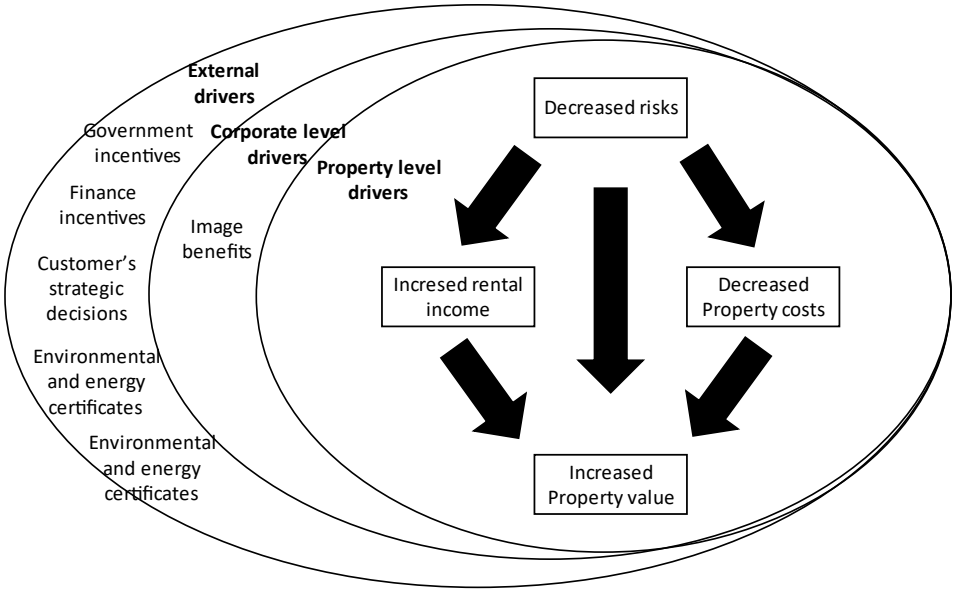

Figure 4. The Framework of Drivers for the Real Estate Investor (Falkenbach et al. 2010)

3.2.1. External Drivers

Different building certifications are remarkable drivers for green buildings, but environmental legislation is a mandatory requirement in building legislation. (Newell, 2008) As it is shown by Sayce et al. (2007) regulatory requirements have increased and are not decreasing in the future.

Globally, Kyoto Protocol and United Nations' Principles of Responsible Investment are the most important guidelines (King Sturge, 2009). Moreover, energy efficiency, carbon emissions, waste management etc. are legislated in national level. All these mandatory requirements effect on all stake holders in real estate and adjust higher costs to investors. (Sayce et al., 2007)

3.2.2. Image Benefits

Falkenbach et al. (2010) recognized only on corporate level driver, image benefits, in their research. Sustainability in general has gained a lot of attention in recent years and actions towards sustainability issues may lead to image benefits for investors. Lutzkendorf and Lorenz (2007) and Fuerst and McAllister (2008) have identified corporate image benefits as a sustainability driver but according to Falkenbach et al. (2010) research providing empirical evidence from real estate remains quite limited. Davies (2005) composes case studies and states how about 50% of the interviewees identified image benefits received from sustainability actions and continues that increase corporate image in overall was seen as one of the most important factors achieved with green investments.

Newell (2008) studies how real estate firms come up with sustainability matters. His research shows how publishing CSR and carbon disclosure reports, firms can document their CSR performance. Research encourages firms to document their actions towards leadership in sustainability. It states how leading real estate operators gain positive media attention by actively communicating their environmental performance and by doing that may achieve major branding possibilities.

3.2.3. Increased rental levels

In market economies, price mechanism usually sets the way for resource allocation. In real estate, this has made sustainable construction’s effect to real estate prices on property level a remarkable empirical question for organizations and policy makers working in real estate. (Falkenbach et al. 2010) In their research, Feige et al. (2013) find a positive relationship between environmental performance and rental levels in residential real estate class. To prove sustainability as a business case in real estate, it requires more empirical evidence about sustainability’s effect on investments’ financial performance.

JLL's research (2008) shows how 70 percent from 400 corporate tenants are ready to pay a price premium as a higher rent from sustainable property. The level of premium ranged so that 62 percent were willing to pay a premium between 1 to 10 percent and 8 percent were ready to pay a premium higher than 10 percent. Still, at the same time 30 percent told that they are not ready to pay any premium.

In corporate real estate, rental premiums have been explained with increased tenant productivity, positive image benefits and with lower running costs. From the other point of view, Holmes and Hudson (2002) as well as Shiers (1999) state how tenants are not that interested about running costs and those do not affect on their decision-making in corporate real estate. Sayce et al (2007) find in their research targeted to real estate professionals, how 30 percent of respondents saw that sustainability arguments have an influence on rental levels and 70 to 80 percent saw that those will have influence in next five years. Still, as Falkenbach et al. (2010) also stated, empirical research providing comprehensive proof of higher rental levels has remained low, especially within residential real estate.

3.2.4. Decreased Property Costs

Another property level driver identified by Falkenbach et al (2010) is decreased property costs. Shiers (1999) studies green buildings' energy costs and finds energy savings between six and 30 percent by using green technologies.

Even if green technologies reduce operating costs, these may raise the total life-cycle costs if those replacement costs are higher compared to common technologies. (Borenstein, 2008) Leading from this thought, a theoretical model by Yoshida et al. (2014) admits price premiums but also price discounts depending on varying green factors.

3.2.5. Decreased Risks

Risk on an investment can appear from various aspects. In real estate investments, risks can typically be seen as future obsolence and vacancy level. Third property level driver, identified by Falkenbach et al. (2010) arises from these as decreased risks.

Risk of future obsolence is based on legislative matters and market expectations that may lead to higher costs in unsustainable real estate and lower requirement levels and possible penalties within gas emissions and energy consumption. (Falkenbach et al., 2010)

Lower vacancy level stands from the view that sustainable real estate has already lower risk for vacancy. Regression model built by Fuerst and McAllister (2009) shows differences on occupancy between sustainably certified and ‘’normal’’ buildings with eight percent higher occupancy for LEED-certified and three percent higher occupancy for ENERGY STAR-certified commercial buildings.

3.2.6. Increased Property Values

Besides rental levels, operating costs, and risks, also supply and demand of sustainable real estate can be seen as an effective factor on property value. (Falkenbach et al., 2010) Cushman and Wakefield (2007, 2009) point out how over 40% of property owners are willing to pay a price premium for sustainable property. Sayce et al. (2007) stated how 70 percent of their research sample told in 2005 that the believe that sustainability issues will affect to investment yields in five years.

Miller et al. studied in 2008, how sustainability certifications affect on real estate prices. Study was concentrated on commercial office buildings and indicated, based on state-of-the-art regression model, that LEED-certification led to 9,94

percent and ENERGY STAR-certification led to 5,76 percent value premium compared to non-certified buildings.

3.2.7. Investment drivers, conclusion

Based on Falkenbach et al. (2010) identification of investment drivers, empirical evidence exists but the amount of academic articles especially on residential real estate is quite limited.

More research is needed to cover corporate and portfolio level drivers and from property level, further evidence about rents and investment valuation is needed. Most of the earlier studies cover commercial real estate assets and this thesis aims to find empirical evidence about the investment drivers in residential real estate.

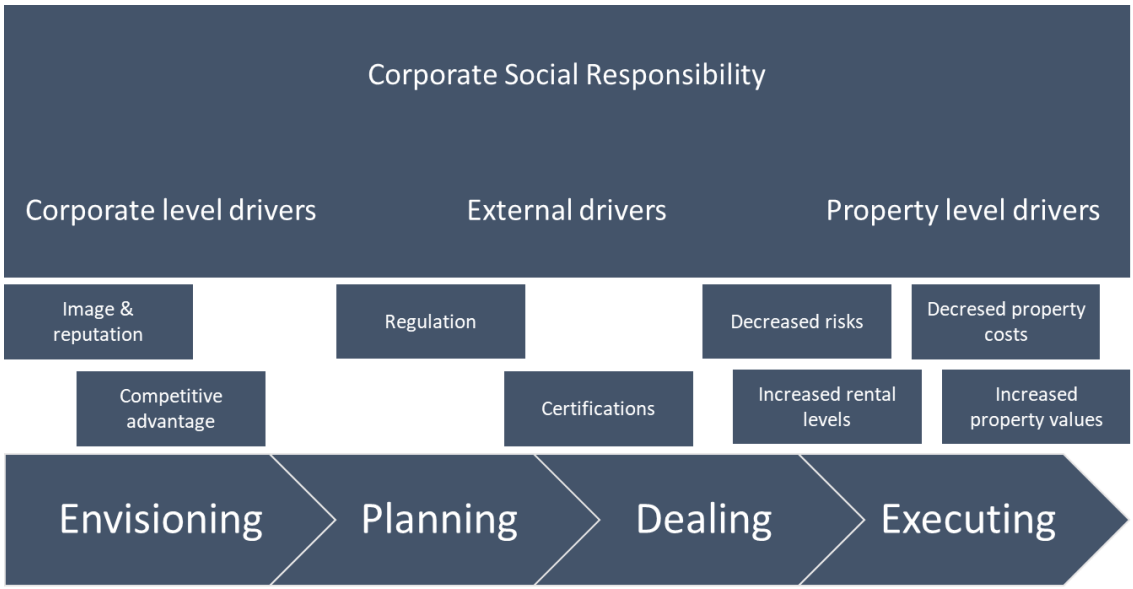

Figure 5. Theoretical conclusion

4. Research design and methods

Empirical part of this thesis is based on qualitative study. Qualitative study aims to find answers to questions about how, why, and what kind (Heikkilä 2017, 15) Qualitative study is a useful method when deep understanding about the research subject is needed. (Hirsjärvi et al., 2009) This thesis focuses on understanding residential real estate investors' drivers and motives to invest in environmentally sustainable solutions and how these are observed in their investment processes. Besides these research questions, this thesis aims to find, if these investors are willing to pay a price premium for more sustainable real estate.

Within qualitative study, case study is the most generalized research method. According to Yin (2014), case study focuses on phenomenon with profound, real life approach. Yin continues how case study is suited with studies where context and phenomenon division is not explicit.

Apart from qualitative study, another option for a research method would have been a quantitative method. Quantitative research is mostly based on numeral sample and would make the research more statistically meaningful. Choosing quantitative research method would change the research view significantly and it probably would not give a deep understanding for the research questions. (Heikkilä 2017, 15)

Based on earlier research and to the nature of the research questions, qualitative study is the best choice for this thesis. Investment drivers for and motives for different organizations cannot be measured only by financial variables and qualitative study gives good possibilities for deep understanding of the research questions.

4.1. Data collection

In this thesis, the data collection was performed with semi-structured interview method. Interviews included four case companies and six persons from these selected companies. The form of the interview questions was based on the earlier theory of this research area and to the theoretical framework. This ensures that interviews provide answers and knowledge about the research questions even if interviews were dialogical to get a deep understanding about the topics.

Case companies represented a wide range of Finnish real estate investors as there was publicly listed investment and asset management companies, private owned real estate company and bank included. Together these organizations own and manage residential real estate assets in Finland for value over 10 billion euros. Starting point of the case selection was to find companies that present wide enough sample of Finnish residential real estate investors. Also, requirement was that companies had been active in the real estate market during the last twelve months and that they are actively looking for new investment targets. Minimum requirement for each company's investment capacity was 100 million euros which excluded the smallest operators. Investment capacity specification was done to ensure that case companies had enough knowledge from different types of investments and that they had big enough organization to answer the interview questions with good knowledge.

Interviews aimed to get a good and deep understanding about the research topics, and this formed key requirements for the interviewees. Because of the topic being a strategic level question, research aimed to find director level interviewees or interviewees who are directly in charge of residential investments or sustainability matters in the case companies. The main goal was to understand the incentives behind environmentally sustainable residential real

estate investments and the interviews gave a deep and detailed understanding about the interview topics.

To find the right fit of persons for the interviews, company websites were used to find a contact person. All the contacts were made with email and the research topic was presented. Three persons directed the email for the right persons in their organizations and one was a right fit immediately. People who were interviewed, held job titles like Investment Director, Partner, Head of Investments, Asset Manager, Corporate Responsibility & Sustainability Manager and Real Estate Analyst.

All the interviews were held in May 2021 as Microsoft Teams meetings as it was the easiest way to arrange these with the tight schedule of the interviewees. All the organizations were interviewed individually without information about other interviews. Interview questions were given to the interviewees before the interviews to give them time to familiarize themselves before the interviews and to get more specific answers for the questions. Interviews were held in Finnish. The table below presents the people from the interview organizations, and length of each interview.

Table 2. Interview execution.

Company	***Title of the interviewee(s)***	***Length***
Company A	Investment Director	33 minutes
Company B	Head of Investments, Corporate Responsibility & Sustainability Manager	45 minutes
Company C	Asset Manager, Real Estate Analyst	45 minutes
Company D	Partner	52 minutes

Interview questions are presented in Appendix 1. Interview questions were based on earlier research and created to answer the research questions that arise from the theoretical framework and literature review. Interview contains three themes including investment process and strategy, corporate level responsibility and environmental sustainability in investments.

Interview method was semi-structured theme interview, that can be seen as a dialogical method. In semi-structured interview method, interviewer presents open questions for the interviewee. (Tuomi & Sarajärvi, 2002) Interview is based on themes but questions do not have as strict form as in structure interview or survey-based method. (Eskola & Suoranta, 1998) As this thesis aims to expand the knowledge about the drivers behind certain actions in real estate investments, it is justifiable to use semi-structured interview as a research method.

4.2. Data analysis

Data is analyzed with cross-case analysis that is a well-suited method for multi case analysis. This analysis method can be used if all the cases are meant to be a part of one study which is the situation in this thesis. For the analysis, category divided tables can be created to find the similarities and differences between cases. (Yin, 2014, 152-158)

Earlier research forms the theoretical backbone for this thesis. Based on earlier research, themes were first allocated to three different main themes that are based on earlier literature. These themes can be seen below.

Table 3. Analysis themes

Category	***Theme***
Category 1	Investment strategy and process
Category 2	Corporate level sustainability as a strategic decision
Category 3	Environmental sustainability drivers in investments

Following Yin (2009) and Stake (2006) empirical analysis was executed with two individual stages. First, cases were analyzed separately to get a good understanding of each company and their views about the topics. After this, cross-case analysis was executed to find answers for the research questions.

All the interviews were converted to text and then analyzed separately. Then data was coded with Excel to find the main factors from each case screened to

the research themes. After the individual analysis all the cases were gathered to same Excel-sheet and compared with each other to find similarities and differences between cases. These similarities and differences formed patterns within main themes and these patterns were then categorized and analyzed to find answers for the research questions.

4.3. Validity and reliability

According to Yin (2014), four tests have generally been used to demonstrate the quality in this kind of empirical social research. Case study design should be viewed through construct validity, internal validity, external validity, and reliability.

Construct validity points out the suitable operational measures for the research agenda. Internal validity constitutes the causality relationships within explanatory and causal studies. External validity refers to the environment where the research findings can be mirrored. Reliability ensures that everything that has been done with the study can be repeated. Yin (2014) continues how multiple case studies require careful case selection to get meaningful results.

In this thesis, reliability increases as because the interviewees hold significant experience and knowledge from the industry and from the case companies. This ensures that they can give valid information for the research. Also, interviews were anonymous and because of this, interviewees may be more open and give better answers for the research questions. Interviews were also recorded to improve the reliability of the study. It should still be remembered that all the interviews are unique as every person may understand the questions slightly differently. Interviews were also different in length. This can result from the busy schedules of the interviewees, but to avoid schedule’s effect on the answers quality, interviewees were given the possibility to choose the best time for the interviews.

Because all the case companies are from the same industry and are all operating in Finland, study may give some generalized results concerning Finnish markets in residential real estate. It should still be remembered that companies have different focus areas and investment allocations, so this study does not serve as an exact answer for one phenomenon but gives a clear and comprehensive knowledge about the biggest sustainability factors among Finnish investors.

5. RESULTS

In this chapter, results from the interviews for the four case-companies are presented. The goal in this chapter is to gain a clear knowledge about companies' investment process, strategy, sustainability as a part of the strategy and to recognize the drivers behind sustainability, especially environmental sustainability in corporate and investment levels.

These findings are based on three different themes with interview questions in appendix 1. First actual theme focuses on companies' investment process and strategy and sustainability matters within these. Second theme focuses on corporate level sustainability and third theme on environmental sustainability on investment level. Besides these themes, interview also contained general questions about the interviewees and companies.

As mentioned earlier, case companies represent wide range of Finnish investors and together they have extensive knowledge about Finnish real estate markets. First of the case companies is an investor that has recently expanded to residential investments but has a long history from other real estate classes. Second case company is also publicly listed investor that has a significant history from especially in Finnish residential real estate markets. Third case company is one of the largest banks in Finland and has major residential real estate investments among other asset classes. Fourth case company is a private owned investor that has a global perspective but is a strong operator in Finnish real estate markets in various real estate segments. All the case companies highlight sustainability matters in their websites and are committed to sustainable investments in their corporate level policies.

5.1. Investment strategy and process

In general level, the case companies describe how the investment process can be seen as staging process that is based on certain investment strategy. It is described by case companies A, B and D how after strategy setting, they actively try to find investment opportunities that fit to the strategy.

> *''Process moves within stages. In the first stage we created a suitable investment strategy and after that starts the active seeking of the right investment targets. After the transaction, we monitor the performance precisely.'' (Case company a, 2021)*

Apart from others, case company C describes how they do not have to do active research for the investment opportunities as they get enough selection without active research actions. Despite that all the companies see that they get a lot of offering, case companies A, B and D see that active research is crucial within their investment strategy and process.

> *''There have not been reasons for active search as offering has been really strong'' (Case company C, 2021)*

Case company B describes their process as a staging funnel where all starts after strategy setting. Case company describes how after strategy setting, they perform active research based on the strategy even when they get a lot of inbound offering. In the first stages, goal is to rapidly eliminate the investment opportunities that do not fit the strategy and to continue effectively with the most promising ones. This can be seen also with case company C that describes that in the first stages, evaluation is done with a small group of people to be as effective as possible and if process continues, more people are involved, and analysis is more detailed.

‘’We screen investment opportunities together once a week, but some do not even get to that stage.’’ (Case company B, 2021)

As described, all the case companies see that investment process can be seen as a staging process. Apart from other case companies, company D describes their investment strategy as more psychological process that aims to meet the deep needs of their end customers. They state how investment process starts from the thought that is it possible to do something so that it develops built environment through sustainability and customer needs. Case company D strongly sees that their actions must meet higher meanings than economic and that their investment should create better life.

‘’The core of our process is the thought that is it possible to do certain things so that those develop built environment and create better life through sustainability and customer needs.’’ (Case company D, 2021)

5.1.1. Main factors in investment decisions

When thinking about the most significant factors that effect on case companies’ investment decisions, all the companies describe how they start the valuation from the thought that is the possible investment target suitable for their investment strategy.

‘’In brief, if the investment target is suitable for our strategy, then the most meaningful factors can be seen through numbers.’’ (Case company B, 2021)

As seen above, strategy determines if case companies start deeper analysis with investment targets through numbers. Case companies state how they analyze numeric variables and mirror those to their strategy. Case company B describes that behind numeric variables there are always also non-numeric variables that are considered but especially case companies B and C define how economical equation must meet their investment criteria.

''Of course, investment target must meet our economic criteria. Mirrored to the local market, we have a clear profit criterion that is our starting point.'' (Case company C, 2021)

Sustainability as an investment criterion also has a role in case companies investment decisions. Based on case companies' answers, the most significant sustainability related criterion in their investment decision is location that can also be seen as an economical criterion. Case companies describe how location affects their investment decisions and they consider location through accessibility, public transport, and local services. Case companies see that location is also a sustainability related variable as it affects for example their customers need for private car.

''Sustainability as an investment criterion starts from location, we strongly highlight accessibility and public transport in our investment decisions.'' (Case company C, 2021)

5.1.2. Environmental sustainability in investment strategy

In general, all the case companies describe how sustainability is an established part of their investment strategy. Case company A states how corporate level strategy sets the big picture for sustainability requirements and how the starting point is that they always try to do sustainable decisions.

''We follow our corporate level code of conduct and our baseline is that we always try to make sustainable decisions'' (Case company A, 2021)

When thinking about favoring or avoiding certain decisions, case companies underline how environmental, and sustainability due diligence has become a major part of their investment processes in recent years. Case companies A and B describe that once again location effects on sustainability through public

transport and accessibility, but they also state how energy efficiency and environmental values are examined in their due diligence process.

''We always go through environmental and sustainability due diligence in our investment decisions. Categorically we do not avoid anything as in most of the cases it is the entirety that matters.'' (Case company A, 2021)

When summarizing environmental sustainability as a part of investment strategies, case company C points out how sustainability has become major influencer in their decisions. They say that sustainability matters form heavy criteria in investment decisions and state that if they compare two alternative investment targets, sustainability is a major part of the decision.

''If there are two alternative investment opportunities, sustainability matters have a huge impact on our decision.'' (Case company C, 2021)

5.1.3. Measurement and development of sustainability as a part of investment strategy

All the case companies agree that sustainability in real estate investments has taken major steps over recent years and has become a vital part of their strategy. Case company B states how they have brought especially location and energy efficiency to their investment decisions as sustainability criteria and that they always go through an environmental due diligence before investments.

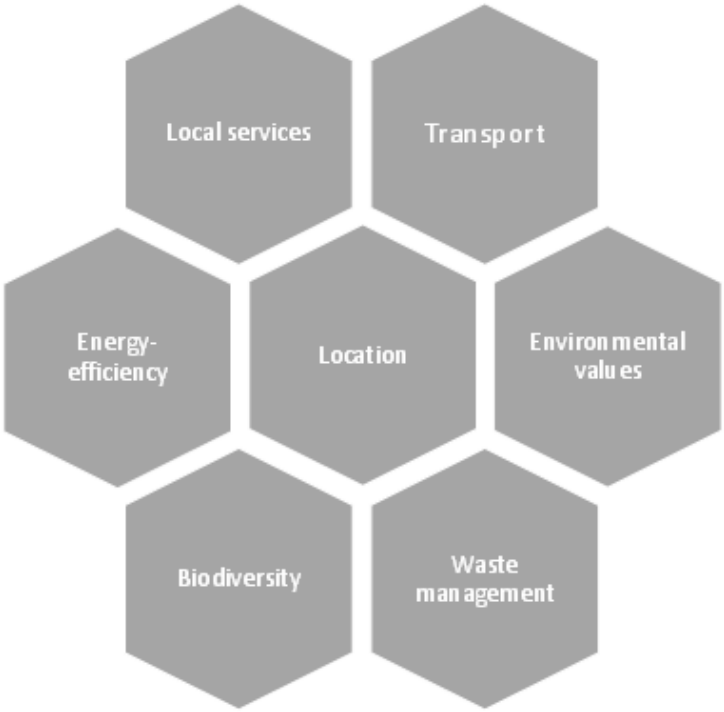

Figure 6. Main sustainability variables in investment decisions

According to case companies, measuring sustainability focuses on certificates and assessments that are generally used internationally. Case companies A and B point out that they have participated in the Global Real Estate Sustainability Benchmark (GRESB) to measure their ESG actions compared to other European organizations. Case companies A, B and D also state how they use different certificates in their real estate investments to prove the sustainability standards by independent evaluation. Based on the answers by the case companies, mostly used certificates are Building Research Establishment Assessment Method (BREEAM in use) and LEED-certificate that are internationally used to assess real estate sustainability.

5.2. Corporate level sustainability as a strategic decision

All the case companies see that sustainability has an essential role as a part of their strategy. Companies see that drivers for increasing and developing strategy level sustainability appear from many different sources and directions. Case company B states that in addition to risk management, that has been one of the main drivers for sustainability in recent years, real estate market and corporations that are working with real estate and real estate investments should be moving towards sustainability as a source of added business value. As said, risk management has been the strategic driver for sustainability but as we can see from the Table 3, all the case companies see that investors' requirements have risen to center.

Of course, investors' requirements have a huge impact. We see that they have awaken and that they want more sustainable investment products, and we want to offer those'' (Case company A, 2021)

Another concrete driver, mentioned by most of the case companies is funding. General view with the case companies is that funding decisions will be more based on sustainability assessment in the future and that it can already be seen as an evaluation criterion. All the case companies mention green bonds and few other green funding instruments that are already widely used internationally but are now coming also to Finnish markets with accelerating speed.

''Funding is one of the variables that will change in the near future. We see that in the first place it serves as an incentive, but it may also turn into compulsory element.'' (Case company A, 2021)

When asking, will the determining driver be funding or regulation in the future, case companies have different views. All the case companies see that in the big picture it will be some kind of mix of those two but especially case companies B

and C see that funding will be the most influential. Apart from others, case company D sees that in the end, direct regulation will be needed.

''This is a tough one but, in the end, I think that direct regulation will be the one'' (Case company D, 2021)

Table 4. Drivers supporting sustainability as a strategic decision.

Company	**Drivers for increasing sustainability as a strategic decision**
Company A	*Investors, funding, image*
Company B	*Investors, risk management, funding, regulation, willingness to be a trailblazer, customers, image*
Company C	*Investors, customers, funding, image*
Company D	*Organizational value, investors, funding, willingness to be a trailblazer, image*

Case companies B and C also mention customers as one of the strategic level drivers. As all the case companies are residential real estate investors, their customers are private people who live in their apartments and case companies B and C view that especially younger customers will be paying more and more attention to sustainability aspects in already now but especially in the future. From case companies' answers, it can still be seen that they do not believe that customers will raise over funding or regulation to be the determining driver.

''In the big picture we do not believe that our customer would do their decisions based on sustainability; I see that customer needs are not strong enough force as accommodation is a basic need and it covers so large part of person's income'' (Case companies A and D, 2021)

Case companies A and D also mention how sustainability is one of their core strategic goals as they are aiming to be so called trailblazers in the industry. All the case companies see sustainability as a corporate image benefit but case company D additionally states that sustainability is one of their key principles and they see that it generates organizational value. Case company describes how their corporate existence and meaning is based on developing better built environment and this raises their organizational value for example in the way that these principal values help them to hire better talent as employees.

''Everything starts from the point of view that the meaning of our presence is based on these values in which sustainability is crucial'' (Case company D, 2021)

In a big picture it can be seen from the answers by the case companies that they do not compare their sustainability to Finnish competitors that much. Case company A sees that in overall they have a good reputation and that they are a respected actor in this field. From the case companies, companies A and B mention that they have participated in GRESB that was mentioned already earlier. From this assessment they see that they have done well with sustainability in European wide perspective. Case company B sees that because there is so many ways to measure sustainability, it is good to be involved in GRESB as it is an independent assessment.

Case company C has based their sustainability comparison to sustainability reports, but as other case companies, they also mention how this kind of comparison is hard when everyone measures and reports slightly differently. Case company D describes how they have been focusing on actions rather than measuring or comparing their sustainability to others. Their goal is to be trailblazers with sustainability in real estate and at this point they have reached the level where LEED Gold and BREEAM very good certificates are common in their projects.

‘’Comparing sustainability to others is a challenging question as our focus has been more on actions. Our target in general has been on being trailblazers in the industry.’’ (Case company D, 2021)

5.3. Environmental sustainability drivers in investments

When considering the environmental sustainability drivers from investors’ perspective, life cycle thinking is emphasized by the case companies. Through the interviews can be seen that investors are willing to invest in sustainability because these decisions raise their long-term value through various sources.

‘’We are ready to invest for example in geo-energy as it is proven to be a smart investment on long-term’’ (Case company A, 2021)

Investors have varying objectives for their investments on long term but at this point the drivers that case companies identify are mostly numerically measurable and economically driven. First driver that shows up with all the case companies is lower operational costs. Investors use geo-energy and better energy efficiency in general level as a common example of a sustainability investment that has a proven record of lowering operational costs.

‘’For example, energy efficiency has clear added value for us as it is proven to lower the operational costs through the whole life cycle.’’ (Case company B, 2021)

Secondly, case companies see that sustainability investments raise their property values. Higher value is strongly linked to lower operational costs as it is mathematically clear that if costs lower and income is stable, the value raises through higher Net Operating Income (NOI). Case company C also mentions that in addition to cost-based valuation, it is clear how assessors already pay strong attention to sustainability when valuing potential transaction targets.

Besides lower operational costs and higher value, case companies see that environmental sustainability lowers their risks. Case company D describes how their investments are based on strong risk adjusted returns and continues that on long term, when all the stakeholders from regulators to investors and customers demand certain sustainability levels, these sustainability choices protect their investments.

''Strong return mirrored to the risks are in the core of our investments. On long term we see that sustainability in general protects our investments.'' (Case company D, 2021)

Table 5. Sustainability drivers in investments.

Company	**What are the main sustainability drivers in your investments?**
Company A	*Lower operational costs, higher value*
Company B	*Lower operational costs, higher value, future regulation and financing, risk management*
Company C	*Lower operational costs, higher value*
Company D	*Lower operational costs, higher value, risk management and stronger risk & return position*

Case company B describes how future regulation and finance requirements already encourage them to favor sustainable solutions. They see that these two variables are the ones that form the potential risks if investors do not pay attention to self-imposed sustainability actions.

5.3.1. Development of environmental sustainability drivers

When case companies describe what they seek with environmental sustainability in the future, these three core drivers that were mentioned above

still exist, but their views cover more strategic thinking, and they see that attention towards sustainability will increase significantly.

Case company A states that for them, sustainability in investments has been a risk management tool but especially in the future when attention grows, it serves as a long-term value factor.

Case companies B and C also highlight these core drivers and how risk management and higher returns through costs and valuation form a combination that cannot be dismissed. Case company B concludes that even if they see sustainability as a strategic level decision, these investments on property level aim especially to higher fair values. They also continue how it is crucial to understand that if they invest for example on geothermal energy, it always has an opportunity cost, meaning that the money spent for geothermal energy can also be invested to something else that raises the property value without sustainability factor in it but with geothermal energy, as an example, they can achieve both – higher sustainability level and higher property value.

Case company D links individual investments' sustainability drivers strongly to their strategy and corporate level values. Company describes how many sustainability investments lower costs and gives an example from geothermal heating that they see as an obvious choice and they have decided to do it in all the properties where it is technically possible even if in some of those it may not be the best choice financially but in wide perspective it serves their long-term strategy. Company continues how they see and agree with these core drivers that are identified but they believe that in the future sustainability may not be an asset for standing out from competitors as it has become an obvious requirement for operating in the industry.

5.3.2. Future of sustainability requirements

When thinking about the future of sustainability requirements in residential real estate, case companies see that we have now just taken the first steps and the development will only accelerate from here. Case companies describe how most of the sustainability choices and investments have been self-imposed but in the future regulation will shape the industry significantly.

‘’Sustainability issues will come more and more to the frontline. We believe that in addition to self-imposed choices, regulation will increase a lot in the near future.’’ (Case company A, 2021)

Case companies share the thought with each other that besides energy efficiency, low-carbon or carbon neutral solutions will become more common. In addition to regulation, green funding will also shape the industry standards in the upcoming years.

‘’No doubt that sustainability requirements will only accelerate from here, and we are totally in a different position within five years. (Case company C, 2021)

6. CONCLUSIONS

In this final chapter of the thesis, findings are represented and concluded and answers for the research questions are given based on the results. Also, findings are mirrored to the earlier literature. Last, limitations of the study and recommendations for the future research is given and discussed.

Goal for this thesis is to examine the sustainability drivers for residential real estate investors and to clarify how sustainability is valued in their investment strategies and processes. Empirical findings are based on interviews with six real estate professionals from four different organizations that are operating in Finnish market. Theoretical background is based on earlier literature of sustainability in real estate and sustainability as a business case in general. Theoretical part also studied earlier findings about investment processes in real estate markets. Next, the goal is to compose answers to the research questions that were introduced in the first section as follows:

Main research question:

What are the drivers that encourage investors to value environmental sustainability in their corporate and investment level actions?

Sub questions:

How is sustainability valued in investment strategy and process?

How investors see the future development of environmental sustainability in residential real estate?

6.1. What are the drivers that encourage investors to value environmental sustainability in their corporate and investment level actions?

When thinking about the drivers that encourage investors to value and put effort on sustainability actions, study clearly shows how there are two main levels – corporate level and investment level that both contain sustainability incentives for case companies. These same levels are also identified in the earlier literature in general, but it is worth to mention how earlier literature is mostly based on studies about commercial real estate when this study is focused on residential real estate.

6.1.1. Corporate level

In this research, case companies describe how the main corporate level sustainability drivers are focused on investors, funding, risk management and corporate image. Based on the results, it can be stated that case companies strongly see sustainability as a valid business case and that sustainability is a core part of their strategies and it has a positive effect on their performance.

Earlier research identifies how sustainability lowers organizations' risks. For example, Carroll and Shabana (2010) state how CSR-practices reduce the risks in operations. As the results show, case companies agree with the statement of risk reduction. When analyzing the results, investors and funding are strongly related with risk management. As the pressure towards more sustainable investments increase, transition to stricter sustainability requirements from investors and financial institutions appear and effect on the expectations towards these organizations that operate in the industry.

Study also shows how organizations believe that direct regulation in the real estate investments will increase in the future. Earlier literature, for example Berman et al. (1999) describes how proactive sustainability and CSR actions

helps organizations to succeed under current and future regulation environment. Based on this study's results, it can be stated that companies actively observe the potential regulation matters and aim to act before mandatory requirements.

As stated earlier, this research shows that case companies see sustainability as a valid business case, and they also see the added value that sustainable actions enable. Corporate level image benefits are mentioned by the case companies as an obvious factor and this point of view agrees with the earlier studies. (Falkenbach et al., 2010)

Over image benefits, more interesting corporate level sustainability incentive shows up from the research when case companies consider sustainability from the point of organizational value. Some of the case companies speak about image and organizational value in the same sentences, but it can clearly be seen that they are more interested about their real corporate values and psychological questions than they are about marketing image that in some conversations can be seen as green washing. Earlier research describes how good CSR helps organizations to attract better talent as employees. (i.e. Hart, 1995; Carroll and Shabana, 2010) Especially one of the case companies takes this thought deep to their corporate identity and describes how this is the main influencer for their willingness to be a trailblazer with sustainability level in the real estate industry. Based on the research it is easy to see how behind all corporate strategies, in the end real estate industry is people focused business and to succeed in the industry, organizations must meet the expected values and principles to attract the top talent.

6.1.2. Investment level

In investment level, more numerically measurable drivers are emphasized in the study but also in earlier literature. Earlier literature for example by Falkenbach et al. (2010) and Feige et al. (2013) identifies how high sustainability level in properties have a positive effect on rental levels. This study does not identify the

correlation between these variables. Case companies describe how sustainability requirement from customers do not raise their willingness to pay more for sustainable properties.

It is identified that customers are interested about sustainability, but as living is a major part of people's expenses it cannot be seen that they are willing to pay more for this. This identification can be argued through earlier literature that is mostly focused on commercial real estate where sustainability has more effect on rental levels. Even when Feige et al. (2013) found a positive effect between sustainability and rental levels in residential real estate, it still it requires more quantitative research to prove it right.

Lower operational costs were identified in the research by all the case companies. Based on this and earlier literature, it can be stated that this is a proven sustainability factor that has established its existence as an investment driver. Earlier studies for example by Falkenbach et al. (2010) and Shiers (1999) identify how green buildings save costs and lower operational costs serve as a sustainable investment driver.

Higher property value as sustainable investment driver was also identified by all the case companies. Higher value was argued through lower costs and higher net operating income but also through the view how sustainability and green buildings are positively valued in the assessment which increases properties' value potential as an individual factor. Increased value is also widely identified in the earlier studies and for example Miller et al. (2008) state how different sustainability certifications generate price premiums compared to non-certified buildings. Based on earlier literature and case companies' interviews, this positive effect can be stated through lower operational costs and lower required return rates that tend to be lower in certified buildings. To assess the relationship between money spent for sustainable investments and value premium gained from these, it still requires more research to consider the potential value premium levels.

6.2. How is sustainability valued in investment strategy and process?

Earlier research describes the investment decisions making process as a staging where all the stages include different actions and requirements that need to be fulfilled to be able to move forward in the process. (Parker 2014, 2016) In general level, case companies see their investment decision making processes mostly the same way with earlier literature.

It can be mentioned, how efficiency in decision making is emphasized and case companies describe how the group of people who are analyzing the investment opportunities in the early stage of the process is small to be able to eliminate the unsuitable investment targets quickly.

Sustainability assessment shows up in the mid stages of the process. Case companies describe that sustainability and environmental due diligence is a crucial part of their investment decision making and that it is done in the mid stages before the decision to execute the transaction.

6.2.1. Sustainability variables

When considering the sustainability variables that investors assess in the investment decision making process, location comes up as the most meaningful variable. Location as a sustainability variable means that investors observe if the investment target is located near public transport and local services or is it located so that for example public transport is not available and potential tenants must use private cars instead of more sustainable transport solutions. But why does location highlight so strongly? Based on the analysis, it can be stated that location is also the most meaningful commercial variable that investors assess. In most cases, location determines the rent level and has significant effect on investors' financial equation. As a conclusion, it can be said that location is an easy-to-use sustainability variable as it also forms the business case.

After location, public transport and local services, investors pay a lot of attention to the energy efficiency of the investment target. Energy efficiency is linked to heating system, that has already been discussed earlier. As the study shows, geothermal heating has proven to be an efficient solution among investors and case companies agree that in the cases where geothermal heating is technically possible, it is the normal choice in most cases.

After these core factors, investors also assess environmental values, waste management solutions and biodiversity in their investment decision making processes. Based on the study, these factors are not as influential as location and energy efficiency but are still precisely assessed when making the investment decision. Through the interview analysis, it can also be stated that sustainability assessment has taken major steps in the last years and it seems that the development of sustainability requirements is not decreasing.

6.3. How investors see the future development of environmental sustainability in residential real estate?

As mentioned earlier, research clearly shows how investors are more than sure that sustainability development will only accelerate from here. It is widely stated how real estate as a sector must participate in the actions that fight against the global climate change. As real estate is the largest individual sector generating carbon dioxide emissions, there is no other options than to do everything possible to protect the planet. Investors see that green money will be a significant influencer and that regulation will also determine the future policies in the industry.

Even if regulation may sound negative, study shows how all the case companies share the thought that this development is just a positive and probably the only possible direction. It can be stated that sustainability development has taken the first steps to the right direction, but we probably have not seen the most influential changes yet, they are there to come soon.

6.4. Limitations and possible further research

This study, focusing on investors perspective on sustainable investment drivers has several limitations and potential biases to be considered. First, it must be considered that this study's empirical findings are based on interviews that were carried out for six people in four organizations that are all operating in Finnish market. This means that study's focus is strongly on Finland and does not reach global generalization possibilities. Second, the study is qualitative and mirrors the interviewees' understanding and viewpoints about the phenomenon meaning, that it cannot be considered as statistically meaningful.

When thinking about potential future research possibilities, there are many ways that this can be taken further. First, there could be more interviews to be taken into research to get more generalizable results and even deeper understanding about the research topic. Also, the same research could be done in other countries, for example other Nordic or EU countries that are close to Finland with political and regulatory environments.

Also, based on this research the same topic could be further studied with quantitative methods. This way, it could be possible to get better understanding about the best possible sustainability solutions from the business perspective. Also, quantitative research would allow to study tenants' willingness to pay price premium for sustainable housing.

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APPENDICES

APPENDIX 1: Interview questions

Background

Description of the interviewee and position in the firm.
Short description of the firm.
How you see that your firm stands out from your competitors?
What is the value of your residential real estate investments?

Theme 1. Investment process and strategy

1. How would you describe your investment strategy and process?
2. Could you describe the main factors that affect on your investment decisions?
3. How does environmental sustainability show up in your investment strategy and process and how it has developed in your actions?
4. Could you describe what are the main drivers that encourage you to demand environmental sustainability?

Theme 2. Sustainability on corporate level

1. Do you see that sustainability generates added value for you firm?
2. If yes, could you describe how you see the added value?
3. How you assess your sustainability to your competitors?

Theme 3. Environmental sustainability in investments

1. Could you describe how you see sustainability's added value in individual investments?

2. Could you describe what should be achieved with sustainability in your investments?
3. How would you describe the development of sustainability in next five years?