

# **Green Leasing in Commercial Real Estate: The drivers and barriers for owners and tenants of sustainable office buildings**

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## **Abstract**

**Purpose of this paper:** This paper investigates the drivers and barriers for green leases and tenancies in sustainable ‘Building Research Establishment Environmental Assessment Method’ (BREEAM) and ‘Leadership in Energy and Environmental Design’ (LEED) certified office and office buildings in Norway, the United Kingdom (UK) and the United States of America (USA). This study focuses on the differing perspectives between owners and tenants. It is then considered as to how these issues are dealt with during different phases of a buildings life cycle. This research is based on existing literature and semi-structured interviews that studied qualitative and quantitative elements in the context of ownership and tenancy of single and multi-tenanted sustainable office buildings.

**Design/Methodology/ Approach:** Using a mixed methods approach involving semi-structured interviews with both qualitative and quantitative elements along with desk research, this paper evaluates how green leases and tenancies in offices and office buildings that are BREEAM and LEED certified require a reconsideration and re-evaluation of the acquisition, operation and disposal of office buildings by building owners and their tenants. These stakeholder relationships are supported theoretically using a theoretical model that outlines the interrelation between the sustainable building and the relationships of the building owner, the user and the FM service provider.

**Findings:** The data gathered from the interviews justifies and partly contradicts some of the statements within existing literature, diminishing the importance of cost and the barrier of split incentive, but instead illuminate the importance of less tangible considerations such as company

policy or a sustainability strategy. The results also note the realisation of a changing market for Commercial Real Estate (CRE) driven by the sustainable business needs of tenants for the occupation of workspaces.

**Research implications:** These findings have the potential to further develop theories, and provide an insight into how the relationships between actors' from a business, procurement and contractual perspective need to be developed to ensure more proactive development of green leasing of new and existing sustainable office buildings, along with where strategic attention is required during the building design, construction, operational and use phases.

**Originality:** This paper is based on original research through interviews and literature studies supported by an existing theoretical model. Results have been partly presented and initially discussed at the WBC World Congress 2016 in Tampere Finland.

**Keywords:** Sustainable facilities and services; Commercial Real Estate (CRE), commercial office users, sustainability strategy; sustainable buildings; green leasing

## 1. Introduction

The procurement of sustainable office space in the context of Commercial and Real Estate (CRE) and its environmentally friendly, "green", operation is an important consideration for businesses demands on improving the sustainability of their primary activities and supporting facilities and services. Although the term 'Commercial Real Estate' can be considered broad in focus, in the context of this paper it is considered to be defined as "*property owned to produce income*" (42 Floors, 2017), with a building type emphasis exclusively on offices. Emerging from this sustainability trend is a leasing product that deals with this directly. This product is 'Green Leasing'. This not only impacts on the operations associated with a tenancy, but also requires a re-evaluation of traditional owner, tenant and facilities management (FM) interaction. The industry, from both the perspective of building owners and tenants is facing a change both in terms of their relationship, and what they expect from their buildings in terms of quality, service provision and operating costs. With considerations for greener tenancies seemingly stemming not just from supply and demand with regard to the likes of sustainable building certifications, but also from an increased need for legislative compliance associated with sustainable development (Collins & Junghans, 2015, pp 131-133), demand for sustainable office buildings has the potential to increase. The size of the potential market for such a leasing option is also a key factor for development, considering that in the UK alone 56% of all non-domestic buildings are rented (Property Industry Alliance, 2014, Janda, Bright, Patrick, Wilkinson, & Dixon, 2016, p.663). Considering the significance of the rise in demand of more sustainable building stock, services and greener leasing, there is also a call to better understand the drivers and barriers for their development and occupancy.

This paper investigates the drivers and barriers of Green Leasing and will focus on the perspective of users of sustainable commercial offices. Results associated with the relationship between building owners and tenants in Norway and the UK have been partly presented and initially discussed at the WBC World Congress 2016 in Tampere Finland (Collins, Junghans and Haugen, 2016). The research methodology includes a selection of case studies on sustainable-leased office buildings in Norway, the UK and the USA with the aim to better understand and analyse the following key issues:

- 1) The drivers and barriers for the stakeholders of ‘owner’ and ‘tenant’ in organisations in their primary activities and core business operations in demanding sustainability and energy efficiency in their building stock and associated services.
- 2) The roles that main stakeholders in the building-life-cycle can have in the way that they influence the sustainability of building design and construction, and operation and maintenance.

The following research questions will lead the investigation of these key issues:

- What were the drivers and barriers for building owners to develop and provide sustainable office space in certified buildings in new or existing buildings?
- What are drivers and barriers for tenants to rent and occupy office space in certified sustainable new or existing buildings?

This paper will consider each research question by looking both at theories based on reviewing relevant literature, as well as empirical studies based on semi-structured interviews with owners and tenants. The reasoning behind the choice of stakeholders (owner and tenant) was due to the involvement they have in developing and occupying their respective buildings. A more detailed explanation as to this research choice will be outlined in the theoretical background. This study is not without fundamental limitations however. The small sample size of 20 interviewees, 13 separate buildings and interviews in only 3 countries restricts the scope outside of this range. There are also the restrictions that exist as a fundamental approach to the qualitative question being conducted in the form of an interview as opposed to a survey. With this in mind, the study can be considered explorative in nature and results indicative.

## 2. Theoretical background

### 2.1 Green leasing

In moving forward, it is necessary to understand what is meant in this paper by “leasing green” and respectively “Green Leasing”. There is no universally recognised definition or even set categories for standards (Rameezdeed et al., 2017, p.4) (even in regulatory bodies such the International Organisation for Standardisation (ISO)). “Green Leasing” is a conundrum that causes difficulties in both research and practice. Despite this issue, a definition of such a lease is needed for the context of this study. With this mind, the simple definition put forward by the Better Buildings Partnership (BBP), a collaboration of British building owners aiming to improve the sustainability of their buildings stock will be used. In their ‘Green Lease Handbook’, they define a Green Lease as *“a standard form lease with additional clauses included which provide for the management and improvement of the Environmental Performance of a building by both owner and occupier(s). Such a document is legally binding and its provisions remain in place for the duration of the term”* (Bugden et al., 2013, p.2). The National Framework for Energy Efficiency (NFEE) in Australia go further with it’s classification of a Green Lease, stating that it is in essence a framework for sharing the environmental framework and obligations in a building, with the ‘leasing’ itself covering all of the environmental activities and practice during the leasing process itself (*National Green Leasing Policy*, 2010, p.5). Example clauses in a Green Lease could be to except environmental performance targets for the property, or to regulate the likes of energy and water consumption” (Bugden et al., 2013, pp. 14, 16 and 22). Whilst a Green Lease is a legally binding document in most cases, Mohd Adnan et al. (2017) makes the point that an overly strict document of this type could pose a barrier not just to attracting tenants, but also retaining them (Mohd Adnan et al., 2017, p.5).

Whilst still under researched in academia at present, some researchers have noted benefits of adopting a Green Lease. In Australia for example, tenants have noted a 14% return on investment on average if their lease mandates co-investment with the property owner on sustainable infrastructure. The buildings themselves have seen an increase in market value of 10% along with a 5-10% increase in the buildings rent (Langley et al., 2008, p.4). However, some resistance does exist to this leasing approach (particularly in the retail sector) where they prefer to take a sustainable approach to their tenancy through non legally binding agreements such as memorandums of understanding (Bright et al., 2014, p.7).

## 2.2 The Role of Stakeholders in Commercial Real Estate

To develop a better understanding of Green Leasing and CRE, it is important to note the socio-technical system of the building and the people who are responsible for its ownership, management and use. Haugen (2008) has introduced the “client-supplier-model” with the owner, the supplier and the user / tenant as main actors in the context of public property management (Haugen, 2003). This model shows the interrelation of the main stakeholders, as well as it demonstrates the responsibilities and influencing factors that are relevant for public and private buildings, and also for commercial office buildings (figure 1).

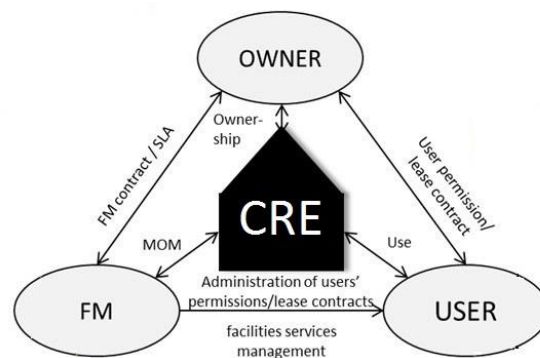


Figure: Five interview perspectives referring to Owner-FM-User interrelation in Facilities management / buildings management, (Haugen, 2008)

*The interrelation of the main stakeholders, responsibilities and influencing factors that are relevant for CRE.*

The model illustrates that owners adopt the perspective of “*value creation for the company throughout the life cycle of the building*”, the facilities managers or building managers are viewing the building from the perspective of ensuring “*that the buildings’ function optimally for their users, owners and surroundings over time*” and the user or tenant operate from the perspective of a building that “*supports their own activity to the greatest possible degree*” and “*efficiency of the building according to how it meets their own requirements per cost unit*” (Haugen, 2008, pp.15-16). When taking into account these perspectives, this influenced the development of the interview guides for both owner and tenant, with the owner perspective focusing on building ownership and development

as their core business, with tenant's questions focusing slightly more on how their tenancy affects their day-to-day operations and impact on their company brand and culture.

## 2.3 Sustainable Commercial Real Estate

What constitutes a 'Sustainable Commercial Real Estate' in this paper are new or existing commercial offices with a BREEAM certification (in the cases of Norway and the UK), as opposed to only buildings with green clauses in their leases. By new buildings, we refer to them being BREEAM certified during the buildings initial development, whilst existing buildings refer to buildings with a retrofit certification. The choice of BREEAM certified buildings is due to definition concerns surrounding not just what constitutes a Green Lease, but also what even constitutes a sustainable building, regardless of whether it is new or existing. Using BREEAM certified buildings as a framework affords the opportunity to compare buildings through an internationally utilised and recognised certification framework that is already recognised as sustainable by many when considering its market share. Thus, using BREEAM would be an appropriate framing for the analysis of green tenancies. BREEAM has been the certification of choice in this paper due to BREEAM's 80% European market share (BREEAM, 2015). In the UK since 2008 alone, of the 9236 individual BREEAM certificates issued 1695 of these are for offices at the time of writing. Their largest single certified building type (excluding mixed-use properties) is the education sector, with 2023 total certifications. These figures include both **interim** (a certification at the design stage of the buildings life cycle) and **final** certifications ("Certified BREEAM Assessments," 2017) as of writing in September 2017. In Norway, which has only been using BREEAM (known as BREEAM-NOR) since 2011, the figures are equally as profound with offices representing the largest certified building type, amounting to 73 of the total of 110 interim and final BREEAM certificates issued at the time of writing in May 2017, the last time figures were posted by BRE Global ("Certified BREEAM Assessments Norway," 2017).

Similarly to Green Leasing, defining a sustainable building offers its own challenges in terms of a definition. From an academic perspective, a definition was offered by Berardi (2013), who concluded that a sustainable building is a healthy facility that is resource efficient with this considerations being paramount throughout the lifecycle of the building. These decisions should also have a basis in promoting sustainable community values, ecological principles and building lifecycles quality value (Berardi, 2013, p.76).

In the USA, LEED certifications were chosen instead due to their market dominance in that region. Administered by the U.S. Green Building Council (USGBC) and developed in the USA, it covers all 50 US states as well as a spread into more than 90 countries since its launch (Starrs, 2010, pp.6-7). Their rating system ranged from 'Certified' to 'Platinum', but does not convert its points into percentages in the way the BREEAM operates (Starrs, 2010, p.11). LEED covers numerous areas of building performance ranging from energy systems, water systems, material selection and even demolition (Roper et al, 2006., p.96) .

It is important at this stage to note that whilst BREEAM and LEED are both building certification methodologies that assess the sustainability of building stock, they are not 'like for like' comparable methodologies with regard to the benchmarks and KPI's they use to rate their buildings. The most notable examples are BREEAM's focus on best practice, as opposed to LEED's optional standards focus, and BREEAM's focus on quantitative thresholds as opposed to LEED's emphasis on percentage thresholds (BSRIA, 2009). In the context of this study however, they are comparable in the sense that both are the leading certification methodologies in their respective regions, so can be

compared in terms of the degree in which they are sustainable in the context of other buildings or other competing methodologies in their regions of dominance.

The choice to focus on offices buildings is due to their primary process similarity, which in these cases is broadly pan European with the same being the case for the USA. Accounting for minor differences in office cultures and practices between Norway, the UK and the USA, most of their operations will be similar enough to offer comparisons. This particularly is the case with sustainable considerations. Eichholtz et al. (2010) states for example that with offices using 30% of their operating costs on energy, these are both the largest and the most manageable of these expenses to reduce (Eichholtz et al., 2010, p.2492) .

### **3 Methodology / Research approach**

#### **3.1 Interviews with owners and tenants of sustainable office buildings**

For this research, interview participants from Norway, the UK and the USA were chosen. The rationale behind the selection of these countries at the exclusion of others was due to the achievable scope of the study given the timeframe as well as the possibilities of exploiting the existing contacts and networks of the authors. In the case of the tenants, they were chosen based on their occupancy of a BREEAM certified commercial office in Norway and the UK, and a LEED certified office for offices in the USA. In the case of building owners, they were chosen based on their role in commissioning the construction or refit of their BREEAM or LEED certified office or office building, lease development and their instrumental role in procuring tenants for the property, along with being involved in the buildings management. This meant that their roles varied between being directly involved in leasing or the properties development; however, their ultimate involvements in the buildings were the same. 56 potential participants were approached for study, and 20 interviewees agreed to take part over a course of 10 individual interviews and 5 group interviews (all of which consisted only of groups of 2), with a total of 13 different buildings. The stakeholders consisted of 9 interviewees representing tenants, and 11 representing owners. 12 of the interviewees were from Norway (7 owners, 5 tenants), 3 from the UK (2 owners, 1 tenant) and 5 from the USA (2 owners, 3 tenants). Three of the case interviews occurred with owners and tenants in the same building, with all of the other interviews with owners and tenants being conducted in different buildings consisting of 9 existing buildings and 4 new buildings. The interviews were conducted between September 2015 and October 2016. Although the sample size is small and difficult to generalise, there is nonetheless scope for the preliminary results to ‘shed light’ on the issues addressed (Yin, 2014, p.40), as well provide scope to expand the study further into other countries or areas of CRE. In the case of BREEAM buildings, the building were chosen using BREEAM’s online building search engine ‘Green Book Live’ with prospective participants narrowed down on the website by the pre-discussed criteria. The stakeholders contacted for interviews from the owners perspective were building managers, although in some cases the final interviewee was an individual(s) of differing roles who knew more about the subject matter. Of the final interviewee’s, these roles consisted of 5 project leaders, 3 operations managers, 2 building managers and 1 assets manager. All of the buildings were privately owned. In the case of tenants, they consisted of manager or responsible lessee of their respected tenancy. All of the tenants were private organisations with the exception of one government department being a tenant in the case of one of the Norwegian buildings.

All of the buildings that fitted the criteria in Norway were contacted by email, with 100% of the positive responses interviewed. The same approach was used for UK BREEAM buildings, with more than 50 buildings contacted. For LEED building’s, the Chicago chapter of the USGBC was contacted

by email and who provided access to owners and tenants from their network. Interviewees were interviewed in person in the case of the USA and some of the Norwegian contacts, with a combination of Skype and telephone used for the remaining contacts. The interviews ranged between 30-90 minutes. The quantitative questions were noted and analysed in a Microsoft Excel spreadsheet to make for easy sorting by stakeholder, country and driver. Qualitative questions were recording using transcripts and analysed through narrative sorting.

Each of the interviewees were asked a multiple choice quantitative questions (in this paper named “quantitative questions”) regarding what factors of ‘drivers’ were important to them when choosing to develop, refit or occupy their building to BREEAM standard. This approach was chosen in order to provide responses from interviewee’s that could be compared between owners and tenants more directly. This provides benefits over open questions (in this paper named “qualitative questions” due the reduction in possible answers offered by each stakeholder and well providing an easier format for analysis. This approach however is not without its limitations. The sample size remains small making this approach. The restrictions in possible answers risk not including the true priorities of some or all stakeholders. The reasons for asking a quantitative question in an interview format was to allow for a mixed method approach that would allow for qualitative questioning to provide as Yin (2014) describes it as ‘*complimentary data*’(Yin, 2014, p.65), and allow the study dig deeper in a more semi structured way to investigate the barriers and drivers. The motivators reflected those most commonly found in the state of the art, both from academia and practice. The drivers were influenced and informed by an extensive examination of the literature, with the previously mentioned driver by Bansal and Roth (2000) being of particular influence. The drivers from Banal and Roth were adjusted due to the influences of further reading the intended scope of the study. The number of drivers was kept at six in order to concentrate the results and provide a workable scope within the time frame of the interviews to follow up the quantitative answers with some further and deeper qualitative questions. They were asked to rank in order of ‘1-6’ (1 being the highest priority) in the categories of **A)**‘Costs’, **B)**‘A Green Certification’, **C)**‘Legislative Compliance’, **D)**‘Corporate Social Responsibility (CSR)’, **E)**‘Company Policy/ Culture’ and **F)**‘Industry/ Customer Demand’.

Each driver was defined as follows:

**Costs:** In the context of owners, this referred the overall business case of the development of their building with a primary consideration of operating costs (if it is the responsibility of the owner), overall building development costs, and added financial value. For tenants, this referred to their outgoings in their tenancy related to rent, and utilities (if their lease makes this their responsibility).

**Green Certification:** In the context of owners, it was referring to the level of importance they placed the BREEAM or LEED certification in comparison to the other factors when developing their building. The same considerations exist for the tenant, with the exception of them considering how important the BREEAM or LEED certification was as a factor in them choosing to rent this particular space.

**Legislative Compliance:** The meaning of this category is similar in both stakeholders’ cases, in the sense that it asks the interviewee to gauge how important mandatory legislative obligations (national or international) were in their choice to develop or occupy their BREEAM or LEED certified building. This legislation could derive from the likes of local government, national buildings codes, or international legislation (such as from the European Union).

**Corporate Social Responsibility (CSR):** Both stakeholders are asked to consider the importance of CSR as an externally presented policy in their respective choices. CSR based decision making is also impactful on the reputation and brand image of the respective owner or tenant.

**Company Policy/ Culture:** This refers to the culture within the respective company or organisation of each stakeholder, and how important internal policy and cultural motivators impacted on their choices.

**Industry/ Customer Demand:** This category in case of owners, refers to the degree to which demands from existing or prospective tenants influenced the development of their BREEAM or LEED building. Pressure from within their own industry is also a factor that they were asked to consider. This was reflected similarly in the case of tenants, however in the context of their decision to occupy their respective building.

The quantitative questioning did not deal with barriers directly; however this was covered in qualitative follow up questioning with the interviewees. Qualitative discussions were semi-structured in nature, and instigated by asking the interviewees to explain the narrative behind their decision to develop or occupy their building, and by asking them about what challenges they faced during their development or occupancy. Some barriers were also illuminated when the interviewees explained their reasoning behind their choice of quantitative answer. The barriers raised as a result of these qualitative responses will be discussed later in the section on the discussion of the findings.

## 4. Findings

In the findings, the results of the study will be divided into three sections. These will consist of the results of the core quantitative questions, before moving on to look at relevant qualitative results divided between the stakeholders of owner and tenant individually.

### 4.1 Stakeholders Priorities

The key aim of the quantitative results is to demonstrate the difference in priorities between building owners and tenants regarding what they most value in their respective buildings. This is the reason for the data being discussed in a division of these roles. This analytical approach was chosen over a more statistical approach due to the relatively small sample size. This also allowed for possibility to identify deeper insights in the responses by the 20 interviewee's through the later qualitative questioning. The aim here is also to provide more generalised quantitative results to reflect on a broader scale in relation to the decisions and motivations for the development and rental of the sustainable CRE properties features as case studies. This section of the paper looks at how the priorities and motivating factor are valued by each stakeholder as a group, and each country.

The data has been analysed by looking at the average priority of each stakeholder along with both stakeholders combined. This is then interpreted by looking them on a scale of 'low' to 'high' priority factors for each category.

The scale for the average priority positions is as follows: 1 – 'High – High', 2 – 'High', 3 – 'High-Low', 4 – 'Low – High', 5 – 'Low' and 6 – 'Low – Low'

The following overview outlines more directly the "High" and "Low" priority factors for each of the drivers presented to the interviewee (Table 1):

*Table 1: 'High' and 'Low' average priority factors for the drivers for owners and tenants*



<b>Categories</b>	<b>Owners</b>	<b>Tenants</b>
<b>Costs</b>	<i>Low (4.66)</i>	<i>High-Low (2.71)</i>
<b>Green Certification</b>	<i>High-Low (3.11)</i>	<i>High-Low (2.57)</i>
<b>Legislative Compliance</b>	<i>Low-High (4.33)</i>	<i>Low (5.28)</i>
<b>CSR</b>	<i>Low-High (3.77)</i>	<i>High-Low (3.28)</i>
<b>Company policy / Culture</b>	<i>High (2)</i>	<i>High-Low (2.85)</i>
<b>Industry/ Customer Demand</b>	<i>High-Low (2.7)</i>	<i>Low-High (4.14)</i>

Table 2: 'High' and 'Low' average priority factors for the drivers for each respondent's country

<b>Categories</b>	<b>Norway</b>	<b>UK</b>	<b>USA</b>
<b>Costs</b>	<i>Low-High (3.77)</i>	<i>Low (5)</i>	<i>High (3)</i>
<b>Green Certification</b>	<i>High-Low (3.11)</i>	<i>High-Low (2.66)</i>	<i>Low-High (3.5)</i>
<b>Legislative Compliance</b>	<i>Low (4.77)</i>	<i>Low (5)</i>	<i>Low (5.25)</i>
<b>CSR</b>	<i>High-Low (3.33)</i>	<i>Low-High (3.66)</i>	<i>Low-High (4)</i>
<b>Company policy / Culture</b>	<i>High (2.44)</i>	<i>High-High (1.33)</i>	<i>High-Low (3)</i>
<b>Industry/ Customer Demand</b>	<i>Low-High (3.55)</i>	<i>High-Low (3.33)</i>	<i>High-Low (3.25)</i>

The presented interview results demonstrate difference in the driver's priority levels depending on whether they were the owner or a tenant, and which country the respondents were from.

With regard to stakeholders individually, *Table 1* demonstrated the differing priority factors and how they are valued by both. With regard to owners, it seems that 'Company Policy/ Culture' was the highest priority factor for the development of their building, whilst 'Costs' was the lowest priority on average, followed by 'Legislative Compliance'. In terms of how this compares to tenants, they saw different averages in terms of their priorities that motivated them to occupy their building. As opposed to owners, 'Costs' were seemingly the highest priority for them on average, which sees a very different motivation than those of the building owners. 'Legislative Compliance' was the lowest priority for tenants by a considerable margin, placing it only position lower than that of building owners.

When considering the results from a different perspective by that of the country of the respondents in Table 2. The only significant difference between countries was the 'Low' average placed on 'Costs' for USA respondents, whilst respondents from Norway placed it at 'Low-High' and the UK 'High'. Other categories saw similar (although not identical) averages between countries. This is indicative of a broadly pan country consensus on what are the most important priorities for the development and rental of BREEAM and LEED buildings. It is key to consider however that these results are indicative within the scope of the limited case studies, as well as the context of the countries chosen for study. This presents an interesting opportunity to conduct the same quantitative question in other countries with similar certifications to see if the pattern could be globalised or would see significant change with a larger sample.

## 5. Discussion of barriers and drivers for tenants

### 5.1 The barriers and drivers for sustainable commercial offices

The literature notes numerous difficulties in the development of sustainable buildings. Bright et al. (2014) note how there is little incentive for building owners to install energy efficient technologies in their buildings due to the upfront costs and expensive maintenance (Bright et al., 2014, p.17). Literature also claims that sustainable building management and FM is being increasingly driven by legislation, and less so by corporate image (Casals, 2006; Ayres et al., 2007; Shiers et al., 2007, cited in Elmualim et al. 2012, p.17). The results of our study however, were indicative of the opposite. One of the British building owners for example, claimed that their investors were keen to have as many new and retrofitted high performance BREEAM buildings as possible, due to the long term financial benefits as well as those associated with CSR, stating that *"with the funds we've got, along with investors who are very keen on sustainability and environmental credentials because they are linked with the fund, that's what those buzz words are linked to these days. So the highest priority for us would be the green classification. Whether that be BREEAM, and Energy Performance Certificate (EPC) or another classification"*. This was despite the substantial upfront costs necessary to make this approach possible. Similar comments were echoed by other interviewees, all of whom cited a combination of company policy and long term financial benefits in terms of maintenance as being important factors in their investments. Despite some discussion on the contrary, an industry wide survey by law firm DLA Piper from 2014 of more than 100 building developers did illustrate a consideration that was reflected in our study. DLA Piper claimed that only 3% of their respondents felt that existing or pending legislation influenced their decision to deliver sustainable real estate products (Piper, 2014, p. 17). This was reflected in our results, where less tangible considerations such as company policy were a higher.

The interviews indicated that industry and customer demand were 'high priority' factors for the owners. One of the owners of a Norwegian office building state their company understood early on that prospective tenants would demand a more sustainable office option, going as far as to state that having a BREEAM certificate would be advantageous in finding a tenant. One of the British building owners noted that regardless of the debates on a sustainable approach to office buildings, *"at the end of the day it comes down to costs from a tenant point of view, and that's the bottom line"*. Some of the owners also reflected on the ability for their building to also work alongside the sustainability policies of their tenants themselves, making the building itself a more holistic element in a wider strategy. Much of the existing available research also reflected these qualities. Dixon et al. (2008) conducted a study that suggested the tenants participating understood the social, economic and environmental benefits of occupying a sustainable office, and procured a building accordingly (Dixon et al., 2008,

p.8). Eichholtz et al. (2009) note that in the development of sustainable commercial building stock that the behaviour of corporate tenants is at the core, with real estate development reflecting the more increasingly more stringent demands and expectations of such tenants (Eichholtz et al., 2009, p.1).

The interviews not only illuminated demands from tenants to procure more sustainable offices spaces, but also how these demands have impacted the way in which existing buildings are retrofitted to be sustainable and/or have a green certification such as BREEAM. One of the British buildings owners of a refurbished building from the 1980's noted that a BREEAM approach to its redevelopment was essential as such a certification was "*by 2011 very much at the top of everybody's lists*" on the grounds that a "*BREEAM rating or low EPC rated building fits in with their corporate style*" which mandated that the building can be developed into a very different kind of product than before its refit.

The key barriers were technical and structural, with one of the Norwegian building owners, for example, being aware that their tenants were experiencing difficulties with their Building Management System (BMS). Many of the building owners also felt that the BREEAM process was overly difficult. One of the Norwegian building owners cited the frustrating lack of points received for building on an empty site and not demolishing an old property. Many of the building owners also reflected that the bureaucratic process of obtaining a BREEAM certification was long and burdensome, in part due to the difficulties in interpreting the 'balanced scorecard' approach. One Norwegian building owners noted more specifically that the approach from BREEAM was at times inconsistent, stating that "*the most frustrating thing was that when we thought that we had everything in place, they came back with something totally different that needed to be done compared to what they had asked us to do some weeks previously*". The owners of LEED certified buildings however did not note similar problems with the exception of the cost of some of the renovations and fittings required to obtain their desired rating. All of the Norwegian building owners also noted that having to go through BREEAM's UK operations made the process unnecessarily long in their eyes, and they were unsure why the certification process could not be done in Norway.

## **5.2 The barriers and drivers for tenants occupying sustainable commercial offices**

Current research suggests that sustainable buildings are valued more by potential occupants due to their lower running costs, along with providing a more attractive working environment (Sayce et al., 2010, p.4), although some evidence suggest that their real world performance does not match the technical specifications (Turner and Frankel, 2008; Paul and Taylor, 2008, cited in Sayce et al., 2010, p.4). The interviews conducted so far however place the likes of costs (both in the context of 'operational' and 'developmental') far closer to the middle and bottom of the priority scale, making it less of a consideration. The majority of building owners associated more closely with the development costs of their building (for which they are more directly responsible) and tenants more with operational costs, which greater impact the day to day financial elements associated with their tenancy.

Wiley et al. (2008) suggests factors that could encourage tenants occupy a sustainable building. As well as helping enhance other aspect of the business, they note that a reduction in operating costs could offset some larger expenses (i.e. rent) that a high performance building may command (Wiley et al., 2008, pp.233-234). Whilst no tenants stated that a reduction in costs was a key factor in their decision to move to their respective buildings, they were none the less aware of the positive impact on their operational costs. In further questioning, one of the Norwegian tenants noted the attractiveness of lower operational costs in conjunction with their BREEAM certification. They stated BREEAM

certifying their building came at significant financial costs to themselves, and they felt that operational costs savings should be offset for paying for an environmental certification. Two of the tenants interviewed also noted that BREEAM certification process itself had stimulated overall costs reductions, in part due to the reduction in space in their new premises. One of the Norwegian tenants explained this in more detail, stating that compared to the cell offices in their previous building, they were now almost 100% open plan. This resulted in them halving their floor space without a significant reduction in personnel, which reduced running costs. Five months after the building opened, their operational costs saw a roughly 50% reduction when comparing the same time of year in their previous premises.

An aspect not covered in the quantitative questioning, yet was illuminated in the qualitative interviews, was the degree to which tenants valued being a part of the design stage of their building. Brooks et al. (2008) note this approach as being a potential objective for a Green Leasing approach, describing it as an “*Integrating Design Approach*”, involving not just the tenant, but other stakeholders such as the architect, engineers and lawyers (Brooks et al., 2008, pp. 12,13). One of the Norwegian tenants noted that being able to have a direct impact on the floor plan design before construction was not only a key factor in them choosing to occupy their building, but also felt that this had been a key success factor in the building meeting their needs stating that “*this gave us a good baseline to manage the whole project*”. The tenant claimed that they “*acted like the owners*” and that the owner was happy for them to make the changes necessary as the refit added ‘value’ to the property. Literature also recognises such communication issues being a factor for tenants, with one article stating that to in order to achieve a meaningful outcome for all stakeholders, a new era of cooperation between landlord and tenant by creating mutually achievable sustainability goals and targets is crucial (Christensen et al., 2007, p.4).

When pursuing the occupancy of any building let alone a sustainable one, there are inherent barriers that ease the risk of both the buildings procurement and occupancy. The literature points mostly to financial and legal barriers to negotiating these tenancies, with the likes of split incentive causing a lack of trust and an growth in tensions (Wilson et al., 2006, p.2) , with one scholar going as far as to say that split incentive is “*a notorious obstacle to improving the environmental performance of tenanted commercial space*” (Bright et al., 2014, p.17). Sanderson et al. (2016) however suggests that lease flexibility combined with a sustainable approach can potentially improve the relationship tenants have with their landlord (Sanderson., 2016, p.5) . Each tenant was asked specifically how the negotiations went with their landlord, and if tensions or difficulties had arisen. None of them claimed to have had any such problems, even, as is the case of one of the Norwegian tenants, appreciating the ability to be involved in the buildings design and even paying for the BREEAM certification themselves at the suggestion of the owner. One of the USA tenants, an environmental legal advocate, also sought a LEED certification themselves, in their case resulting in a LEED Platinum fit out for their office alone at great expense. According to the tenant –“*sustainability and environmental friendliness is at the heart of what we do, so how can we encourage other people to be sustainable if we don’t make sustainable decisions ourselves? People ask us a lot about how we did this (LEED fit out), so maybe others will follow our example both in this building and other people we work with*”. This contradicts a potential barrier noted in literature, that states that often adversarial relationship between the landlord and tenant that can potentially stifle the development of sustainable buildings, and their associated greener tenancies (Hinnells et al., 2008, p.544).

## 6. Conclusion

When looking directly at what we know and do not know about the study of sustainable offices and sustainable CRE, there is a need for research to pursue what is driving not just the development of these buildings, but also what drives their tenants to sign leases for them. Whilst we know that there has been an increase in the uptake of the likes of BREEAM (an increase of 64% in European commercial properties between 2013 and 2015) (The Construction Index, 2015) and other sustainable certifications like LEED, it is unsure at present if this is a temporary consideration by building owners and their development teams, or a long term commitment.

Referring to the research questions, the barriers and drivers were numerous in both nature and scope. From the perspective of building owners, these were often less tangible in nature, with motivations often revolving around their own corporate policies, which combined with significant financial investment in their buildings, could meet their sustainably orientated company objectives. Whilst tenants were more cost orientated, they also saw some value in their own sustainability orientated policies. For both, barriers hovered primarily over the bureaucratic and technical. This paper also demonstrates to some extent the business needs for the development of sustainable office buildings from the perspective of owners and tenants, and an understanding from both stakeholders as to the operational costs savings achievable in a sustainable office building with a BREEAM or LEED certification. However, bureaucratic and technical considerations (such as the complications associated with BREEAM certifications of historic buildings) could be adjusted to simplify the certification. There was also call for a more streamlined process for BREEAM certifications outside the United Kingdom (such as Norway in the case of this study) where an extra level of bureaucracy has been criticised by the interviewees.

From the perspective of the delivery and development of Green Leases in theory and practice in CRE, the results in the paper have illuminated differences between both forms of literature. The literature represents a need to understand 'value' from the perspective of both owners and tenants beyond what has been cited in the literature mentioned earlier in this paper. Overall, the results demonstrate that different needs, drivers and barriers exist depending on whether attention is placed on the owner or tenant, with a need to adjust priorities accordingly. Understanding these differences not just impacts on the development of sustainable CRE as per the questions asked in the interviews, but also emphasises the consideration stakeholders need to be mindful of when developing an attractive and achievable Green Lease strategy for a sustainable office building that include clauses and regulations feasible for tenants to adopt as a part of their day to day operations. The development of sustainable buildings relate not just their development of their physical structure, but also how attractive their leasing and policy decisions are to the tenants who may occupy them.

With these concluding thoughts in mind, this paper has scope to further existing research needs by providing a better understanding as to what drives key stakeholders in sustainable office buildings and commercial real estate, whilst also demonstrating a potential path for further research with larger samples, different focuses and the involvement of other stakeholders such as facilities managers and architects. This could also be coupled with further research on the usability of sustainable commercial offices, as well as further work on understanding the barriers and drivers of these types of commercial office buildings for rental from the perspective of the users, the needs of facilities management infrastructure as well as those that sign the lease.

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