

# **At Differing Scales: The Commonalities Between Green Leasing and Urban FM from the perspectives of Sustainable Urban Development Projects**

## **Abstract.**

**Purpose:** The purpose of this study is to look at what Urban FM and Green Leasing have in common and the degree to which they are ultimately reliant on one another. Whilst both are similar in terms of their placement in organizational management, Green Leasing is a building level concept whilst Urban FM is at the community level. The primary purpose of this paper is to show how the commonalities of both can strengthen one another and offer tangible possibilities to improve the sustainable credentials of urban development projects.

**Methodology/ Approach:** This study will be conducted with a mixed-method approach. Firstly, a literature study will determine the commonalities between both concepts, and the degree to which they rely on one another to work effectively in projects. The second method will be a cross-sectional case study. Using existing cases that employ both (either implicitly or explicitly), the study can demonstrate how these commonalities and reliabilities can offer tangible outputs to real work projects. These will then be combined in a case study to demonstrate many of these aspects in a real-world setting.

**Findings:** The finding demonstrates that there are commonalities between Green Leasing and Urban FM at all levels of organizational management and that the success of both requires holistic consideration of each other, as well as other aspects such as facilities management and citizen participation. The success and failure of projects are depending upon considering these aspects. By not considering the buildings and community levels as separation aspects, but more as different levels of the same project, multi-level considerations can contribute to the success of urban development projects.

**Originality and Value:** The commonalities between Urban FM and Green Leasing are profound and do not just show the value of holistic thinking, but also the inclusion of other considerations such as Facilities Management to reduce project failure and long-term project viability. This can add value to the study of not just urban FM and Green Leasing, but also FM more generally, architectural design and urban planning.

**Keywords:** Urban FM, Green Leasing, Sustainable Built Environment, Smart Cities, Sustainable Urban Development, Citizen Participation

## 1. Introduction

The study of urban planning and the built environment in the context of sustainability is not new. All of these considerations are increasingly arousing the attention and interest not just in academia, but also in practice. The reasons for this are as diverse as they are important and represent a part of a growing trend and synergy that can be seen almost everywhere in new developments both at the building and community levels. Corporate Social Responsibility (CSR) is driving businesses not just to rethink their values from a sustainable perspective, but also to see the benefits that this type of approach can make for their company from the perspective not just of profit, but also industry leadership (Collins et al., 2018). These types of considerations are not just being made at the company level, but also increasingly in government (both national and international). Whilst this was primarily being driven by the Brundtland report in the last decade of the 20<sup>th</sup> century (Brundtland, 1987), more recent treaties and mechanisms such as the Paris Agreement are driving forward the so-called '*Green Shift*' (Collins et al., 2019, p. 639) which refers to the trend of environmentally friendly restructuring in urban and building development.

Whilst numerous mechanisms and projects are attempting to tackle and achieve environmentally positive developments in the built environment and urban planning. Green Leasing at the building level and Urban Facilities Management (Urban FM) at the community and urban planning level are two emerging concepts and mechanisms endeavouring to tackle these challenges head-on. In their most basic forms, Green Leasing is the method of leasing out a building in a way that is sustainable through good Facilities Management (FM), whilst Urban FM takes the concepts of FM and moves them into planning in a community at city (not just building) scale.

Whilst definitions and the prospects of the utility of both are not new, there have been no publications to date that look at how each concept shares qualities and are to an extent reliant on one another to develop more holistic multi-level urban development projects. This paper endeavours to go some way towards addressing this gap in knowledge.

Using desk research from academia and practice, this paper will contribute systemically quantified and theoretical knowledge to answer the following research questions.

- What are Green Leasing and Urban FM, and what qualities and aspects do they both share?
- In what ways are both Green Leasing and Urban FM needed together to foster more holistic multi-level sustainable urban development projects?

After looking into the methodological approach, this paper will investigate theoretical and definition frameworks of urban development, Green Leasing and Urban FM. The paper will move on to presenting finding reflective of the content of the questions before moving on to the discussion where each of these research questions will be addressed in turn before being concluded.

## 2. Methodological Approach

### 2.1. Problem Statement

This paper is a study of the commonalities between Urban FM and Green Leasing, along with how this holistic approach can be employed in real work projects. The study of each concept individually is not new, however, the study of them in this context in tandem is. The reason for this approach is due to the need in urban development projects not just to consider the sustainable approach at the community and city level, but also to better understand that these projects are compartmental intrinsically. By looking into the building level as well a 'jig saw' approach can be considered where each part can be better optimized from a sustainability perspective which in theory will result in more sustainable urban development projects.

### 2.2. Literature and Case Study

The methodological approach to this paper primarily consists of a study desk literature from academic books and journals, as well as some appropriate industry literature. Unless otherwise stated, all of the literature in this paper will be published from 2015 to 2021 to better be unsure of the scientific validity of its content.

The main source of academic journals comes from a combination of the authors' libraries, as well as from the academic search engine 'Google Scholar'. In Google Scholar the primary search terms have been "Green Leasing", "Green Leases", "Sustainable Urban Development" and "Urban Facilities Management". To better adjust the searches for accuracy, some adjustment to the searches was conducted, for example, removing architectural sources from "Sustainable Urban Development". This was also done selectively and manually to improve it further.

For literature from industry and practice, the standard Google Search engine was used. For the most part, the same search terms were used as in academic literature, however with a greater focus on real-world case studies and examples. The specificity was achieved either by adding the words "project" or "case studies" to the search terms or by manually looking into sources to see if they featured relevant cases and projects.

During the authors' PhD study between 2014 and 2019, they amassed a substantial library of literature relevant to these topics which were used in this study where relevant.

To provide a more applied grounding for this research, a case study is used in the paper's discussion section. The case chosen is that of Fjordbyen near Oslo in Norway. This case study was chosen specifically for two reasons Firstly, this case study represents a new build Urban development project that accounts for aspects of Urban FM and Green Leasing in its development. Secondly, the author is

working on a post-doctoral project in which Fjordbyen is a case, allowing for access to documents and materials that would not have been available otherwise.

### 2.3 Analytical Framework

The analytical approach for this paper will be primarily cross-sectional in its approach. The reason for this is that it will better allow for generalisations between the two concepts and provide useful data extraction given the space available. The results section in this paper will present common factors between both based not just on the rawer definitions of each concept, but also on their commonalities in terms of their utility and applicability. This will then be combined to offer the answers to the research questions. A more detailed ‘sectional’ description of this framework is presented in the results.

The similarities and commonalities between Green Leases more specifically were chosen due to the degree to which these aspects are prevalent in existing literature as well as considering the potential placement of both the context of both the building and urban scales, something that in itself is discussed in more detail later in this paper.

To unpack the data more clearly in the results section, a more categorical and thematic analytical framework will be used. To better compare and contrast Green Leasing and Urban FM equally, their commonalities and differences will be organised under Organisational Management (OM) levels. OM levels are the three levels of management that describe both the position of services and stakeholders in an organisation's structure, as well as their intended utility. The three OM levels in this paper consist of the ‘*Strategic Level*’, ‘*The Tactical Level*’ and ‘*The Operational Level*’.



Figure 1 – Strategic Tactical Pyramid (Justice, 2017)

As can be seen in Figure 1, the OM level demonstrates different degrees of organizational management based upon ‘*policy*’, ‘*procedure*’ and ‘*execution*’. The policy is governed by the

Strategic Level in OM. The level dictates the direction of an organization and sets the goals and tasks that it needs to achieve. It needs to be entrenched in the financial possibilities and see the bigger picture in terms of how other aspects of OM are governed and managed (Atkin et al., 2015, p. 46). In terms of procedure, the Tactical Level turns the strategic level into sets of workable plans and procedures representative of what has been gone on at the Strategic Level. This level deals with resource effectiveness along dictating “*how things should be done*” (Atkin et al., 2015, pp.46-47). At the point of execution, you have the Operational Level of OM. This level is responsible for carrying out the procedures laid out at the Tactical Level. This mostly refers to ground level activities and operations that lead directly through practical implementation toward the achievement of the strategic objectives at the first OM level (Atkin et al., 2015, p.47).

### **3. Theoretical Approach and Definitions**

To ensure a stable contextual basis going forward, it is important to define some key concepts and terms, primarily those of ‘*Green Leasing*’ and ‘*Urban FM*’. A brief definition of what constitutes an ‘*Urban Development Project*’ will also be provided for clarity.

#### *3.1. Green Leasing*

Whilst the concept of Green Leasing did not invent the concept of a sustainable building, it did go some effort towards quantifying and systematizing this in the context of the non-residential leasing system.

Green Leasing finds its genesis in the term ‘*Green Lease*’, a term that has been in use in the real estate industry since 2007. According to the Better Buildings Partnership (BBP), a group dedicated to improving the sustainability of buildings, a Green Lease is a standard form of a lease with extra clauses that have an impact on the sustainability of a building. These clauses could include factors such as energy reduction, the purchasing of energy-efficient electronics, and mandatory recycling and waste management (Bugden et al., 2013). Whilst this covers many of the clause based and infrastructural considerations of what makes a building more sustainable, it doesn’t cover necessarily cover the nuances that FM, technology and human behaviour have as a part of this discussion.

Green leasing moves ‘*Green Leases*’ further by covering aspects of the ‘leasing’ itself, and not just a lease. In its most simplistic, Green Leasing “*refers to the process, decisions, and development that leads to and/or involves itself with the operational stages of the Green Lease (or another lease) documents implementation*” (Collins, D, 2018). In essence, Green Leasing is the letting out of a building in a sustainable manner, whilst Green Leases refer to

the sustainable credibility offered by the lease document itself. This paper however attempts to go further by proving a theoretical framework by which to further understand and utilize Green Leasing as a concept.

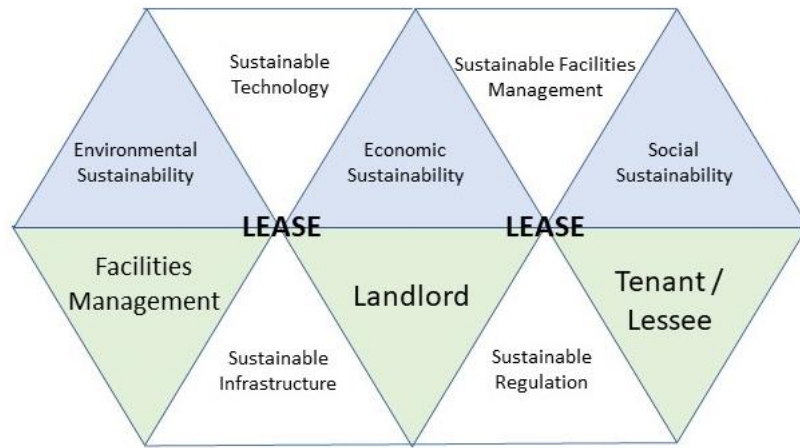


Figure 2 – Green Leasing Composition Model

As can be seen in Figure 2, Green Leasing from a stakeholder perspective focuses on the core stakeholders of ‘Facilities Management’, ‘Landlord’ and ‘Tenant/ Lessee’. The reason for the separation of the ‘Tenant/ Lessee’ as separate stakeholders is because in some cases the person who signs the lease may not be the individual who ultimately occupies the property.

These stakeholders can also be found as the core personnel in a Green Lease. In terms of how the built environment (both internal and external) has a component factor in Green Leasing, these constitute four core aspects. ‘Sustainable Technology’ refers to facilities within a building that support its sustainable credibility. This can constitute the likes of energy submetering to support sustainability goals, microgeneration systems or even a mandate for ‘Energy Star’ certified electronics. ‘Sustainable Facilities Management’ is building services and FM that support the building sustainable agenda. Examples of such services could be ‘cleaning by need, not by schedule’, optimized waste management and even sustainable consulting services to improve sustainable building operations. ‘Sustainable Infrastructure’ represents some of the more tacit aspects of the built environment. This can refer to internal aspects such as Passive House and sensor lighting, or more ‘grounds level’ factors such as minimal parking spaces and easy access to public transport. Finally, ‘Sustainable Regulation’ is a diverse set of factors both within and external to the building. A Green Lease could be one example of an internal form of regulation, whilst national or international regulation that

affects a building could also be considered sustainable regulation. All four of these factors are ultimately governed in tone and intention by the ‘*Triple Bottom Line*’ of sustainability which is ‘*Economical Sustainability*’, ‘*Environmental Sustainability*’ and ‘*Social Sustainability*’.

The degree to which a building can be considered to operate Green Leasing can ultimately be judged on the degree to which it adopts the stakeholders, factors and aspects represented in Figure 2.

### 3.2. *Urban Facilities Management*

Whilst also relatively new as a concept, Urban FM is seeing increasing recognition in academia and practice as being worthy of both research and implementation. The genesis of the term can to some extent be found in Facilities Management. According to the European Committee for Standardisation (CEN), FM can be defined as the “*integration of processes within an organization to maintain and develop agreed services which support and improve the effectiveness of its primary activities*” (CEN, 2006). This definition was expanded by the International Standardisation Organisation (ISO) which says that FM practices consist of: — *improve quality, productivity and financial performance*; — *enhancing sustainability and reducing negative environmental impact*; — *developing functional and motivating work environments*; — *maintaining regulatory compliance and providing safe workplaces*; — *optimize life cycle performance and costs*; — *improve resilience and relevance*; — *project an organization’s identity and image more successfully*. (ISO, 2017).

When combining these two, FM on a broad scale can be the infrastructure and services of a building that operates to support that building's primary function.

Urban FM shares many of the qualities of FM but expands to the needs and possibilities at the community and neighbourhood scale, not just that of individual buildings and their portfolios. Urban FM in this sense can also be found to have roots in ‘*Community Facilities Management*’ (Community FM). Community FM can be defined as being the role that facilities and their management plan in community life (Heywood et al., 2006). Urban FM on the other hand extends this further, by integrating the provision of public service accommodation and community support services (Roberts, 2004).

In terms of a more in-depth look at what Urban FM is, Temeljotov-Salaj et al (2020) note that Urban FM is in many respects the result of FM aligning itself to a new sense of what constitutes the ‘*physical place*’. Urban FM's efforts to improve the quality of the physical

environment is its primary focus, whilst ensuring that there is an encompassing and holistic link between the citizens that live in this physical environment, as well as the services that support them (Temeljotov Salaj et al., 2020). Within the larger context of human activities in this area, using urban FM we can overcome the challenges posed when unsustainable human practices are a consequence of the way human activity is organised (Boyle et al., 2019, p.449). Urban FM also has a place for fostering further innovation in this sector. In Urban FM thinking, it can be considered to be a viable platform for urban communities and citizens to benefit from innovative possibilities and settings offered by the public and private sectors, whilst also considering how these communities are connected at the wider city scale, along with the sustainability impact that comes with it (Lindkvist et al., 2020). The impact of Urban FM on sustainable urban development can also not be ignored (Lindkvist et al., 2019). With the United Nations Sustainable Development Goals prominently featuring the importance of people and buildings (UN 2020), the possibilities for Urban FM to holistically ‘*stitch these aspects together*’ offers further scope not just to utilize Urban FM in real-world projects (Lindkvist et al., 2020), but also to innovate to meet the challenges of today, and the challenges we may face in the future.

#### **4. Analysis**

The following section will investigate the commonalities and differences between Green Leasing and Urban FM both in terms of academia and their potential application in projects. In this section, this paper will be structured under the OM levels featured in the Methodology chapter.

##### *4.1. The Strategic Level*

In the following section of the results, this paper will look into the commonalities and differences within the context of the strategic OM level.

##### 4.1.1. The Commonalities

Although both Green Leasing and Urban FM are conceptually different and operate on different scales (building scale vs community and neighbourhood scale), they have enough commonalities that offer their positional utility to both learn and complement one another.

One example is their relationship to sustainable development. In the case of Green Leasing, this is implied not just in the name, but also in its conceptual intention. Referring to the BBP’s Green Lease tool kit, it reinforces this in its sections primarily focusing on implying



*'leasing'*. It uses language that states that the behaviour of occupants should consider the environmental requirements of the built environment and that managing agents should reinforce this with appropriate levels of building policy (Budgen et al, 2013, p.3). From academic literature Collins et al (2015) state that the company's strategic approach is key to the sustainable agenda with Green Leases and Green Leasing and that buildings need to be occupied in a sustainable manner (Collins et al., 2015, p.132, 133). Whilst Urban FM doesn't have sustainability in its name, it is no less linked to Sustainable Development. At the core of Urban FM's approach to urban development is to effectively entrench within the context making communities and neighbourhoods more sustainable. A core thematic theme for Urban FM is to find solutions that meet the needs of the community whilst ensuring that these goals are integrated into sustainable goals and business opportunities. This is also coupled with the possibilities for more sustainable economic and social improvements in these neighbourhoods and communities (Salaj et al, 2020, p.5). The sustainability-focused approach also leads to the well-being aspects of communities. Urban FM endeavours to improve the health and well being of communities which are achieved through good sustainable urban planning and an improvement in the living conditions and urban resilience of residents (Xue et al, 2019, Xue et al. 2020).

In terms of differences in this regard, Green Leasing is focused primarily on traditional facilities management and architects to implement their sustainable agenda (Collins, 2018). Whilst many aspects of this approach thematically are linked to Urban FM, the strategic considerations (building fabric, facilities services etc) differs considerably from those in Urban FM. In comparison, Urban FM considers the needs of a wider community. Whilst the name may feature 'FM', the type of strategic FM required is very different from that of a building. Managing sustainability at this level requires the like of Urban Planners, demographic models and larger levels of social infrastructure consideration to meet the needs of Urban FM sustainability (Salaj et al, 2020).

At the strategic level, however, there are also stark differences between Green Leasing and Urban FM. The most glaring difference is that of scale. Whilst the Green Leases cover individual buildings and at the largest, portfolio level, Urban FM is concerned with entire communities, neighbourhoods and even cities. Urban FM characterises itself by dealing primarily the life between buildings (Lindkvist et al, 2020, p. 99), which in many respects is the complete opposite to how Green Leasing operates, which looks at how individual buildings fulfil the sustainable agenda without always factoring in (except for its conjunction

with some sustainable certification methodologies) the wider landscape and community context. Another key difference between the two concepts is the overall company instigating the Green Leasing or Urban FM project. In the case of Green Leasing, such a policy is likely to be instigated by a property owner or property management company or service provider. An example of this is the FM service company CarbonEES. CarbonEES are an energy management service company that offers its Green Lease development services. As suggested earlier, their main customers of focus are primarily landlords and to an extent tenants (EnergyTS, 2018). For Urban FM the strategic and commissioning organisation is more likely to feature the likes of local municipalities and construction companies. In Trondheim in Norway for example, the Lighthouse Smart Cities Project '+CityxChange' is dealing with issues that have an Urban FM consideration attached to them. Funding by a combination of European Union (EU) funding, municipality and commercial partners, the projects Urban FM focused on aims are to connect communities not just by improving their quality of life, but by considering the advancement and evolution of value chains (Lindkvist et al., 2020, p. 103).

#### *4.2. The Tactical Level*

At the Tactical OM level, there is also a variety of factors that establish the commonalities and differences between both Urban FM and Green Leasing which both advance and hinder their ability for synergy.

##### *4.2.1. Commonalities*

With regards to commonalities, a clear one is their applicability to sustainable certification methodologies used to measure the sustainable credibility of the built environment. Despite the differences in the scale of both concepts mentioned in the previous chapter, this level of scale does not exclude it from the world's largest sustainable certification methodology, the Building Research Establishment Environmental Assessment Method (BREEAM). Although originally established as a British government research lab, it is now the world's largest and most widely recognised sustainable certification for the built environment (BREEAM, 2014). Generally speaking, BREEAM historically would be more associated with the 'BREEAM New Construction' and 'BREEAM In-Use' schemes (the latter being an operational stage certification) (NGBC, 2012) (Collins et al., 2018). However, a more experimental but increasingly active BREEAM assessment is that of 'BREEAM Communities'. BREEAM Communities refers to community master planning with an emphasis on holistically integrating not just buildings at the community level, but also roads, transportation services

and other infrastructure (BREEAM, 2018), effectively systemising Urban FM into a cohesive methodology. It is essential now to establish why this would be considered to be a 'commonality'. Whilst the scale and systems of assessment may differ, enclosing both the community and building under the same overarching principle it is possible to view both Urban FM and Green Leasing as different initiatives at different scales that ultimately answer to a common goal.

A second Tactical commonality is the unavoidable fact that both concepts are at the mercy of the challenges associated with policy and regulation. Neither can move entirely independently with a focus solely on the core stakeholders' vision but are ultimately guided and to a degree restricted by external regulatory environments. Green Leasing and Green Leases have had a curious and complex history with regulations, both good and bad. Until the Australian government's leadership was replaced by Tony Abbott, the Australian government not only supported Green Leases but even provided a government handbook that guided their implementation. The handbook had information just on what a Green Lease, was but also provided the likes of sample clauses to assist in the drafting of these new leases (Wheeler, 2012). On the more restrictive end, some Green Lease initiatives have been stifled by local regulation. The case of 66 Queen Square in Bristol in Britain, came in the form of regulation concerning historic buildings. The refurbishment of 66 Queen Square consisted of the renovation of a Georgian era building to meet high levels of environmental performance, employ Green Leasing and gain the BREEAM rating of 'Outstanding'. However, due to local planning regulations resulting in not being able to, for example, change the sash windows, the full proposed renovation and associated infrastructure could not be completed as intended (Skanska, 2015). Urban FM on the other hand also has its challenges in this area but from the perspective of planning regulation. In the case of the development of a new city between Drammen and Oslo in Norway named 'Fjordbyen', the direction of the project is dictated by the regional municipality. The development of this smart city features sustainability and wellbeing at its heart with Urban FM principles (such as a high level of citizen participation at the project's design stage) being integrated into the city's development. The city is being developed by a public-private organisation called 'Eidos', however, they do not have free reign to develop the project completely independently. They are instructed to meet specific construction and environmental brief by regional authorities to ensure that the project is not only legal and viable but is also integrated into the wider Greater Oslo scape (Fjordbyen Lier og Drammen, 2021).

#### 4.2.2. Differences

The commonalities at this OM level do not eliminate the contrast that also exists between Green Leasing and Urban FM.

One difference that very much divides these two is that of the primary stakeholders involved in each. Whilst the theoretical discussions earlier in this paper show without dispute that both concepts are user-focused primarily, the governing and development level stakeholders contrast differently. In the case of Green Leasing, these stakeholders consist primarily of the landlord and tenant/ lessee as seen in *Figure 2*. These stakeholders are primarily restricted in the scope to represent the operations and activities within the built environment primarily. These stakeholders themselves can be divided by the OM levels, with the Landlord focusing on the policy and acquisition aspects of the tenancy, the tenant being the primary functional occupant whilst FM personnel engage with the building day to day operational functions, repair and maintenance (Collins, 2018a ). Urban FM had stakeholders that exist with similar OM responsibilities; however, their contextual placement is in the wider neighbourhood context and not just in an individual building. In Urban FM and urban development, the number of stakeholders are diverse, complex, and hard to definitively categorise (Lindkvist et al., 2020, p.101). Lindkvist et al (2020) try to simplify this bit by creating larger overarching categories. They divide these stakeholders by '*local community*', '*Society*' and '*Value Chain Actors*'. '*Local Community*' deals with aspects like resource management and having a remit that stretches as far as cultural heritage. '*Society*' concerns itself with economic and sustainable development as well as conflict mitigation. '*Value Chain Actors*' are those concerned with fair competition, promoting social responsibility and cementing supplier relationships (Lindkvist et al., 2020, pp. 102-103). As you can see, these stakeholders are more diverse, complex and responsibility heavy than those found in Green Leases and Green Leasing.

Another core difference between both concepts is that of the wider considerations of each in terms of how far their remit stretches. In the case of Green Leasing, this is primarily restricted to key stakeholders within a building. Owing mostly to scale, the wider sustainability responsibility of Green Leasing begins and ends with the building itself. Whilst it is agreed that there is some limited overlap with areas outside the building itself (such as ground maintenance, the placement of a building and/or policy considering the proximity to the likes of public transport), policy development focuses on the contextual sustainability needs of the

building (Bright et al, 2014, p.10). However, it must also be considered that local or national government regulation can occasionally have an impact on Green Leasing, as seen in the previous case of 66 Queens Square. Urban FM however has a responsibility that in principle and practicality transcends the boundaries of the community and neighbourhood itself. As mentioned in the first section of the results, the wider scale ensures that the Urban Development project has to answer not just to the needs of the developers and citizens, but also to the regulators' boundaries and requirements at local and national government levels.

#### *4.3.The Operational Level*

The final OM level is Tactical Level which features numerous commonalities and differences between Green Leases and Green Leasing.

##### *4.3.1. Commonalities*

One commonality between the two is the fact that both are recognised by higher levels of government (both directly and indirectly), and this also receives requisite support. In the case of Green Leases and Green Leasing, this can be most starkly seen in the Australian Government's previous support for the concept. Before Tony Abbott became the Prime Minister of Australia (and this scrapped much of their environmental legislation) the Government of New South Wales and others sanctioned, supported and to a degree codified Green Leases. This level of support and industry leadership has ultimately resulted in Green Leases becoming commonplace in Sydney for example (Janda et al., 2016, p. 5). In this specific example, 60% of all leases signed in Sydney between 2013 and 2014 contained green clauses. Without institutional support from the likes of the Sydney BBP, this sort of uptake would not have been possible (Janda et al., 2016, p. 6). Urban FM also has support from higher levels of government. As opposed to Green Leases and Green Leasing, however, this is a result of a combination not just of the concept itself, but also the fact that many aspects of Urban FM result in urban regeneration of some kind, which in itself is a local planning issue. Urban is at the mercy in many respects of the fact that regulation has now always developed along with it. Institutional and regulatory factors need to be mindful not to hinder new solutions (Temeljotov Salaj et al., 2020, p. 5). That being said, Government also can '*oil the gears of progress*'. Urban FM can benefit from systems of governance that can not only enable sustainable urban development but also foster improvement in well being by enabling better collaboration across communities, neighbourhoods and cultures (Temeljotov Salaj et al., 2020, p. 4).

A commonality that both concepts share as one of their core values is that they prioritise the end-user over many other factors. This end user in the context of Green Leases and Green Leasing is that of the lessee. According to Mohd Adnan et al (2017) for example, a Green Leasing has to primarily appeal to tenants and that documentation and associated challenges should be mitigated to ensure this (Mohd Adnan et al., 2017, p.5). In terms of providing a financial incentive for the development of Green Leases, Australian Green Lease programs try to encourage at least a 14% return on investment for Green Lease tenants (Langley et al., 2008, p.4), along with few tacit incentives such as sustainable credibility and a better standard of building. In Urban FM, these end-users refer to the citizens themselves. According to Lindkvist et al (2020) for example, the core of FM thinking in the cityscape is to better meet the needs of citizens in more resilient cities (Lindkvist et al., 2020, p.99). This is further cemented by Temeljotov Salaj et al (2020) who note that Urban FM should get closer to its citizens not just to understand their needs, but also to be a mechanism to foster greater commitment, trust, and inclusion in communities (Temeljotov et al., 2020).

#### 4.3.2 Differences

There are also numerous differences at the Operational Level for both concepts. One key difference is that of the managing stakeholders during the operational phase of implementing Green Leases, Green Leasing and Urban FM. In the case of Green Leasing and Green Leases, this is generally the Facilities Manager. According to Collins (2018), an FM is considered to be the stakeholder that interfaces with the building mechanisms, and policy management as well as interfacing with the user directly to ensure that their needs are met (Collins, 2018, p.820). Whilst by the very nature of Urban FM there is FM principle integrated into the Urbanscape, FM's themselves do not manage these areas but instead employ FM thinking. In the Urban environment, it is municipal authorities that are responsible for enacting Urban FM operational policy. Personnel are needed that can maintain and operate physical infrastructure, yet also have competencies and thinking that take advantage of the Urban FM way of running a community. This is a very different approach to Green Leasing, which, while also multidisciplinary, doesn't require the needs and challenges associated with Urban Areas.

Day to day operations of both Green Leasing and Urban FM are also different. On top of the discussions about managing stakeholders in the previous paragraph, the operations themselves also differ between both. In Green Leases and Green Leasing, the day-to-day role

of FMs is not just to support the core services of the building, but also better manage energy, meet the needs of tenants in terms of comfort and solving problems, as well ensure the building functions with minimal disruption (Collins et al., 2018b, p.245). In the case of Urban FM, this is a considerably wider remit. Whilst Urban FM also features design and management services (Temeljotov Salaj et al., 2020, p. 526), the deterioration and management of the physical space require coordination beyond what general FM can do. Urban FM day to day operations require a large and coordinated effort to create synergy between waste management personnel, ad-hoc maintenance and other aspects that cross several departments and agencies, and not just FM departments found in standard non-residential real estate.

#### 4.4. Commonalities and Differences Overview

To provide a more concise summation of the results in this section, the results are presented here again in the form of a table.

<b>OM Level</b>	<b>Commonality</b>	<b>Difference</b>
<i>Strategic Level</i>	Sustainable Development	Traditional FM vs Urban Centred FM
	Community Relevance	Scale
<i>Tactical Level</i>	Sustainable Certifications	Stakeholders
	Policy	Wider Community Considerations
<i>Operational Level</i>	Cooperation with Government	Different Managing Stakeholders
	User-Focused	Day to day operations

*Table 1 – Summation of the Commonalities and Differences Between Urban FM and Green Leasing*

## 5. Discussion

### 5.1. The Synergy Between Green Leasing and Urban FM

Whilst this paper has been clear that they are not interchangeable as concepts, they do possess a degree of synergy that allows them to work in tandem. In their most literal sense, they offer the same level of thinking, even if it is at differing scales. As seen in the theoretical section of

this paper, Urban FM takes traditional FM thinking and moves it into the urban environment. If FM can be supporting functions of a building, the same approach can be seen in Urban FM. One of the core roles of Urban FM is to ensure that the primary functions of the Urbanscape are supported through a systematized management and maintenance infrastructure. Whilst the diversity of competencies is likely larger in an Urban FM context, the overall multidisciplinary perspective is the key to both.

Both concepts' adherence to external regulation is also a large overarching aspect that they both share. They are both mandated to adhere to similar International Standardisation Organisation (ISO) standards, which in essence means that each has significant overlap in their approach the likes of sustainability. This synergy is further entrenched when considering that both share much in the way of a common strategic level philosophy. Whilst the core function of both has been mentioned elsewhere in this paper, the strength of their role in fostering sustainable development and a high level of well-being is critical. Naturally, both have different ways of achieving this as mentioned in the previous section and the theoretical section, they both respect the principle of the likes of the triple bottom line, including considering well-being as an aspect of sustainability and not an entirely separate theme to improve.

Possibly the most important aspect of synergy is that of their complementary nature to one another. Whilst both are at differing scales (the city and built environment), it is this difference that ultimately makes them have a commonality. If a development project at the city level is considered a 'holistic' project, then integrating both the building and urbanscapes as one ecosystem can be a step towards not just building better standards of communities and neighbourhoods – but also planning for urban development projects to work alongside one another, not operate as separate entities.

### *5.2. Green Leasing and Urban FM in holistic sustainable urban development projects*

Whilst the previous section gave mind to how both Green Leasing and Urban FM can have a synergy, here will look at how this could be potentially applied to projects themselves when considering each holistically.

The integrative aspects of both are an obvious comparison to make in the first instance. Given BREEAM certifications as an example, a building can receive a higher BREEAM score if transport aspects are given a high level of consideration (BREEAM-Nor, 2016). What this means in the context of Urban FM is that of public transport. If a building received a better



BREEAM rating by reducing (or eliminating) its car parking spaces, it will need to rely on other services to meet the commuting needs of occupants. If during the development of BREEAM certifying a building there can access to a bus stop considered as a part of the plan, then this isn't just an example of Green Leases and Urban FM complimenting each other but representing a vital form of a tandem.

Combining Urban FM and Green Leasing can lead to better embeddedness of sustainability within an urban development project. Sustainable credibility is not a process that comes from Urban planning alone but also requires a multi-disciplinary approach. If an urban development project was to consider the energy efficiency and waste management aspects of the buildings within its community, the infrastructure of the community itself can be better orientated to consider the bigger picture. Furthering the point from the previous paragraph, understanding the needs of building occupants will allow Urban FM practitioners to understand better what the community needs are in terms of public transport, resource management and the likes of recreational activities.

A less materially tangible way that projects can benefit from both concepts, is the ability to learn from each other to advance each concept respectively. It is undeniable that Urban FM is a product of FM thinking, however, it doesn't mean that a considerable amount more cannot be learnt from FM. Urban FM can learn about wellbeing, complaint management and user considerations along with many others. Similarly, Green Leasing can learn from Urban FM about larger multidisciplinary stakeholder management, resources management and integrative planning. Whilst this is not an exhaustive list, it is nonetheless a demonstration of how both whilst developing separately, have plenty still to learn to advance themselves by looking in-depth at one another.

### *5.3. Green Leasing and Urban FM in the Fjordbyen Project*

Whilst previous sections of this paper have addressed many of these aspects from a more theoretical perspective, the following section shows how the commonalities and differences could be applied in the real setting of Fjordbyen near Oslo in Norway.

The municipality of Lier is approximately 187 square miles with a population of just over 27,000 people ("Om Lier Kommune" 2021). Located approximately a 30-minute drive from the Norwegian Capital of Oslo, Lier is situated economically as a part of the greater Oslo areas (as is the case with its neighbour municipality Drammen, in which a small part of the Fjordbyen project is also located) however it is administered and governed as its

municipality. The Fjordbyen project is located on the shoreline in the Oslo Fjord and represents in effect the development of a new small city within the boundaries of both the Lier and Drammen municipal authorities. This new development aims to settle at least 16,000 new residents and 1600 jobs in a zero-emissions urban area that is green and future-oriented ("Fjordbyen Lier og Drammen" 2021). Whilst more than 15 years in the planning, the project in its current form began in 2011 with construction beginning in 2019 with the groundwork for the new Drammen Hospital.

In terms of Green Leases and Green Leasing, sustainable real estate has been an important part of this project from its early stages and is seen to play a role even very much in the larger city scale of the overall project. This is primarily evident in Fjordbyens considerations to use BREEAM Communities as a part of their certification process for the city. BREEAM Communities specifically is a master planning certification covering not just the outdoor elements, but also the placement of buildings within this context. According to Hilde Herrebrøden, one of the architects for the project, BREEAM Communities' holistic scope is what makes it so attractive for a project like Fjordbyen (BREEAM, 2020). By including the emissions, waste, and energy consumption of buildings within the project, a higher BREEAM Communities rating can be achieved. Whilst this can of course be partially achieved through good use of materials and building fabric, much of it will need to be achieved through optimized users and FM. Good user behaviour and environmentally sensitive maintenance, operation and refurbishment are going to be crucial elements in ensuring not just a good BREEAM rating, but also assuring the sustainable credibility of new building stock within the context of this new emerging smart city.

In terms of Urban FM, this is crucial to the development of Fjordbyen. In terms of the Fjordbyen project in its current state of development, sustainable urban planning considerations are some of the most developed. This is particularly the case with regards to integrating transport infrastructure into the overall context of the residential and business needs of the city. By taking the Urban FM principles of considering the needs of citizens within the context of the urban built environment, the project has developed transportation needs to fit as many baseline citizen typographies as possible. Under the thematic banner of '*mobility*', Eidos (the public-private partnership running the project) view these considerations as essential in creating a vibrant and safe city. This has resulted in looking at the needs of specific citizen groups (young people, the elderly, individuals with extra needs etc) and designing the city layout accordingly (Eidos, 2019). More specifically, this has

resulted in bus services between Lier and Drammen, good walking and bicycle routes and bus lanes. All of this is integrated within the overall Urban FM philosophy of developing sustainable urban areas with high levels of well-being for its citizens.

In terms of melding both concepts, it is clear from his case example that both Green Leasing and Urban FM are crucial in creating a holistically sustainable new smart city. Whilst both are managed differently, their considerations as aspects of the overall project are in some respects best expressed through the fact that BREEAM Communities focuses on both in the certification. The Fjordbyen project is an interesting example where both concepts can be co-dependent and in need of attention and development with their individual concept needs.

## **6. Conclusion**

In conclusion, whilst Green Leasing and Urban FM are in many respects on two different trajectories, the arenas in which they are applied lend to almost a mandatory tandem relationship.

Both share a common philosophy on sustainability and wellbeing, they both support core functions of their respective building or city and are even subject to some of the same kinds of regulation. Although they both have different types of operational stakeholders, end-users and broad competencies, their placement in terms of scale compliments them in ways that seem to become clearer the more they are investigated.

This paper has also aimed to show that in real work projects they can complement one another and allow for this to be 'knit together the more holistic aspects of sustainable development. In a community, urban development and the buildings that reside in it are not in any way separate but are part of the overall picture and to not look at both in tandem is arguably an act of folly.

It is impossible within the scope of a paper this length to exhaustively cover this topic in its entirety, however it is nonetheless hoped that this work will stimulate not just a greater discussion of Green Leasing in the context of Urban FM and vice versa, but more importantly, result in a larger consideration for integrating built environment concept in the context of urban development. It is also hoped that the results of this paper can appeal to a demographic of scholars outside that of urban development and FM, but also appeal to project management disciplines, architecture, commercial property developers and the wider discipline of urban planning.

A project regardless of its intention is a sum of its parts, this paper claims that in urban development Green Leasing, Green Leases and Urban FM are vital and ultimately codependent parts in projects where they are to be found.

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