

Advances in green leases and green leasing: Evidence from Sweden, Australia, and the UK

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Abstract

Improving the environmental performance of non-domestic buildings is a complex problem due to the participation of multiple stakeholders. This is particularly challenging in tenanted spaces, where landlord and tenant interactions are regulated through leases that traditionally ignore environmental considerations. ‘Green leasing’ has been conceptualized as a form of ‘middle-out’ inter-organisational environmental governance that operates between organisations, alongside other drivers. Green leases form a valuable framework for tenant–landlord cooperation within properties and across portfolios. This paper offers a comparative international investigation of how leases are evolving to become ‘greener’ in Sweden, Australia, and the UK, drawing on experience from an IEA project on behaviour change and a UK project on energy strategy development. It considers how stakeholder retrofit opportunities and interactions in non-domestic buildings are shaped by the (1) policy context in each country (e.g., the EPBD, NABERS, and MEES) and (2) prevailing leasing practices in each country. Based on this analysis, the paper develops a new market segmentation framework to accentuate the different roles that public sector organisations and private property companies play as both tenants and landlords across countries. We suggest that national government policies assist the public sector in leading on better leasing practices, whereas international certification and benchmarking schemes (e.g., BREEAM & GRESB) may provide more fuel to private sector tenants and landlords. The paper concludes

with a discussion of the fit between property portfolios and policies, suggesting that international green lease standards might assist multinational tenants and property owners in upgrading both their premises and their operational practices.

Introduction

Improving the environmental performance of non-domestic buildings is a complex problem due to the participation of multiple stakeholders. This is particularly challenging in tenanted spaces, where landlord and tenant interactions are regulated through leases that traditionally ignore environmental considerations. Tenanted space can account for 50–70 % of the non-domestic building market (Janda et al. 2016; PIA 2015). In this context, standard lease arrangements have been considered to be a potential barrier to energy upgrades, “green leases” a possible solution, and “green leasing” to be an evolving form of inter-organisational environmental governance (Janda et al. 2016). A ‘green’ lease is an addition to the standard legal contract between landlord and tenant. It places these parties under mutual obligation to improve the environmental performance of a building, with a primary focus on energy management, through cooperation (Sayce et al 2009). Green leases do not only benefit the environment, but may also create mutual financial benefits for both the tenant and the landlord. An energy management plan, which may be annexed to a green lease, includes details about the technical and non-technical measures and commitments put forward by both parties (Woodford 2007). Energy savings potentials are large (e.g. Feierman 2015) but depend on how much potential there is as well as how well the co-operation between parties – an ulti-

mate outcome of a successful green leasing arrangement – is working. The term “green leases” usually reflects a change to the *wording* of a formal lease document; “green leasing” reflects a change to the *relationship* between the landlord and the tenant, which may be through the mechanism of the lease or through other channels.

Interest in green leases is growing, and the last decade has seen a number of published articles about their use or development in different countries, including the UK (Langley & Hopkinson 2009; Hinnells et al. 2008; Bright & Dixie 2014; Bright & Patrick 2016; Patrick, Bright & Janda 2017 (forthcoming)), Ireland (IGBC 2016), Australia (Roussac & Bright 2012; Woodford 2007; Janda et al. 2016), Sweden (Wikensten & Nilsson 2016; Lind, Bonde & Zalejska-Jonsson 2014), Norway (Collins, Junghans & Haugen 2016; Collins & Junghans 2015), Singapore (Chua 2014), the US (Meister Consultants Group 2014; Kaplow 2009; Oberle & Sloboda 2010), Canada (Sayce et al. 2009), and 20 countries across Europe (Duquesne 2011).

Green leases are meant to provide a valuable framework for tenant–landlord cooperation within properties and across portfolios. However, there might be barriers affecting the development of the green leasing practice, such as if the leases are developed from a landlord’s point of view, leaving the tenants with the feeling of inequality, or if the energy savings are not translated into the expected financial savings (Swedish Energy Agency, 2013). In addition, the ambition levels of adopted green lease schemes vary, with some stricter schemes imposing punitive measures for a party that do not meet the targets, whereas others can be of a voluntary nature and often lead to ‘greenwash’. Are there certain kinds of owners or tenants that are more “cooperative” than others? And what role can public policy play in encouraging this cooperation? This paper considers these questions through two lenses. First, it reviews opportunities for collaboration in the usual conception of the commercial property industry, which is often construed as private property companies renting space to private commercial tenants. Our paper’s second lens starts with a broader and more unusual conception of the commercial property industry, which incorporates the fact that non-domestic buildings are not just for businesses.

This paper offers a comparative international investigation of what we currently think and know about green lease evolution in Sweden, Australia, and the UK, drawing primarily on experience from an IEA project on behaviour change (IEA DSM Task 24¹) and a UK project on energy strategy development (WICKED²). It considers how stakeholder retrofit opportunities and interactions in non-domestic buildings are shaped by (1) the public policy context for energy & non-domestic buildings in each country, (2) prevailing leasing practices in each country, and (3) the presence, absence, and availability of quantitative energy data. Based on this analysis, the paper develops a new market segmentation framework to accentuate the different roles that tenants and landlords play in green leases, and also the role that public sector organisations play as both tenants and landlords across countries. We suggest that national government policies assist the public sector in leading on better

(green) leasing practices, whereas international certification and benchmarking schemes (e.g. LEED & GRESB) provide more scope to private sector tenants and landlords, particularly those that are themselves multinational. The paper concludes with a discussion of initial efforts to develop an international standard for green leases, which would assist multinational tenants and property owners in upgrading both their premises and their operational practices.

Literature review: corporations, inter-organisational governance, and property

This section reviews literature that may be useful for framing the role of green leases as tools for non-domestic building governance. The literature on corporate environmental governance (CEG) and voluntary environmental programmes (VEPs) provides some guidance, but it also has some gaps. To more fully address the role of leases in tenanted property, the CEG and VEP concepts are augmented with perspectives on ‘middle-out’ change (Parag & Janda 2014; Janda & Parag 2013), ‘building communities’ (Axon et al. 2012), and strategic property management (Edwards & Ellison 2004). As a vehicle for environmental governance, the lease is an incredibly flexible tool. Each tenanted property has at least one lease; in multi-tenanted properties there may be many. Each lease is negotiated between the landlord and tenant or their representatives, yet most negotiations start from an institutionalised base or “precedent lease” that is amended for particular circumstances. These amendments can be legally binding and enforceable, or they can be suggestions of good practice. Most importantly for tenanted commercial property, however, leases are inter-organisational agreements that codify the landlord-tenant relationship for a specified length of time, in real property markets. Green leases have yet to be introduced to, and implemented across all property markets. Previous green lease research has focused on their application in buildings (Bright & Dixie 2014; Collins, Junghans & Haugen 2016), corporations (Collins & Junghans 2015), or countries (Janda et al. 2016; Bright & Patrick 2016; Patrick, Bright & Janda 2017 (forthcoming)). This paper looks at the intersection of different levels of governance, with a particular focus on the overlap of national governance and property portfolios.

CORPORATE ENVIRONMENTAL GOVERNANCE AND VOLUNTARY ENVIRONMENTAL PROGRAMMES

Research identifies various factors involved in corporate governance of environmental problems. This work normally focuses on initiatives within firms or across similar firms (e.g., Howard-Grenville, Nash & Coglianese 2008; Prakash & Potoski 2006; Borck & Coglianese 2009; Gouldson & Sullivan 2014) and it shows that an organisation’s willingness to engage in ‘beyond compliance’ environmental programmes is shaped both by external conditions (regulation, economic and social) but also by a range of internal interacting factors, including management style, organisational culture and structure. In their review of the VEP literature, Borck and Coglianese (2009) note three types of businesses that are likely to participate in VEPs: (1) larger businesses, as they have greater resources to participate and may benefit most from recognition, (2) businesses with internal cultures supportive of environmentally-friendly behaviour,

1. www.ieadsm.org/task/task-24-phase-2/

2. <http://www.energy.ox.ac.uk/wicked/>

and (3) businesses that face (or are likely to face) stricter government regulations. Borck and Coglianese (2009) reviewed the literature and present a typology of three different kinds of VEPs – unilateral (led by businesses or industry associations), bilateral (negotiated between government and specific businesses), and public voluntary (used by governments to recognise achievements beyond mandatory standards – depending on the number of participating businesses and on the degree of governmental involvement. In this typology, green leases could be characterised as a bilateral VEP in Australia, whereas they arose unilaterally in the UK and Sweden. Insofar as green leasing can be considered as a particular form of VEP, the VEP literature provides useful insights into types of external and internal drivers for CEG. However, this literature does not address inter-organisational governance or property-level issues.

Looking at the corporate response of UK supermarkets to climate change, Gouldson and Sullivan (2014) argue that policy analysis tends to focus on one of two things: (1) the role of public environmental policies (either regulatory or voluntary) that are external to the firm, or (2) corporate social responsibility policies that are internal to the firm. Gouldson and Sullivan (2014) combine these dimensions by addressing strong and weak ‘governance from the outside’ as well as strong and weak ‘governance from the inside’. Importantly, they look at the strength and alignment of these factors over time, as well as the extent to which they inter-relate (see Table 1). A complete alignment of internal corporate conditions with governmental pressure can induce ‘collective action’; a lack of interest of both government and business leads to ‘collective inaction’. Greater pressure from government produces a ‘socially-led’ market; greater interest from business results in ‘business-led’ activity.

INTER-ORGANISATIONAL GOVERNANCE: MIDDLE-OUT CHANGE

Inter-organisational activities, particularly between dissimilar groups (like landlords and tenants), are often conceptualised as a space where ‘intermediaries’ serve an important role (Fischer & Guy 2009; Moss et al. 2009; Moss 2009). Janda and Parag (2013) and Parag and Janda (2014) augment this literature with new perspectives on ‘middle actors’, including designers, building professionals, and commercial real estate companies. Middle actors have their own agency and capacity to foster innovation from the ‘middle out’ rather than merely reacting to policy push from the top-down or market pull from the bottom-up. A middle-out approach recognises the influence of these actors *upstream* (e.g., to policy makers), *downstream* (e.g., to customers and clients), and *sideways* (e.g., to other middle actors).

IEA DSM Task 24 has taken on the language of ‘the Middle Actor’ and added it into its ‘Behaviour Changer Framework’ (Rotmann 2017 (forthcoming), 2016). The Task 24 framework is a multi-stakeholder collaboration tool utilised in participatory action research settings, including on Swedish green leases in commercial office buildings. This paper conceptualises landlords and tenants as middle actors in the property market, who are able to exert influence sideways through private-private contracts.

THE ROLE OF PROPERTY

Neither the CEG literature nor the middle-out perspective consider the role of property, which is critical to both leases and leasing practices (i.e. the processes, engagement, negotiations and decisions relating to the agreement of a lease). Axon et al. (2012) outline an interdisciplinary ‘building communities’ approach to reducing energy use in tenanted property. This approach highlights the importance of three levels: (1) the general policy context, (2) the role of organisations, and (3) the level of the building itself, including the particular characteristics of both the premises and the stakeholders. These authors call for more research on the role of leases and their practical efficacy in effecting change. The current paper contributes to this challenge. Edwards and Ellison (2004)’s research on corporate property management suggests that organisations have varying perspectives on the importance of physical property relative to their core business. For some corporates, the building is integral to their core business strategy; for others it is merely a container in which work happens. For landlords and investors, for example, the building *is* the business; tenants, however, may only see its value as an operational asset, not as a physical asset. These different perspectives are at the heart of the tenant/landlord divide. This paper considers whether green leasing can help overcome this split incentive.

Methods

Evidencing change in leasing practices is difficult and complex. The property market is global, but tenanted buildings are located and operated in particular physical, social and political contexts, all of which can affect leasing practices. Each tenanted unit has its own lease, and multi-tenanted buildings have multiple leases. Leases expire at the end of a fixed term, which may be in 1 year or 99 years. Leases are treated as commercially confidential. Although the land registries in Sweden and Australia are electronically accessible and searchable, in the UK public

Table 1. Interactions between external and internal governance (Source: Fig. 1 Gouldson & Sullivan (2014), p. 2977).

		Strength and alignment of internal governance conditions.	
		Low	High
Strength and alignment of external governance practices.	High	Socially-led	Collective action
	Low	Collective inaction	Business-led

records of the contents of agreed leases are not electronically accessible or searchable. There is not yet an internationally-standardised method of classifying leases as ‘green.’

This paper draws together evidence of research on green leases and energy policies in Sweden, the UK, and Australia. The Swedish experience is drawn dominantly from a pilot study (Wikensten & Nilsson 2016) done in cooperation with the International Energy Agency’s Demand-Side Management Programme’s Task 24: *Phase II – Helping the Behaviour Changers*. The UK and Australian evidence is drawn dominantly from a research project on energy management in non-domestic buildings, called WICKED, as well as other previously published papers. Each of these projects is discussed below.

TASK 24 DESCRIPTION AND DATA COLLECTION

The Demand-Side Management (DSM) Programme is one of more than 40 co-operative Energy Technology Initiatives within the framework of the International Energy Agency (IEA). To date, 25 research tasks have been initiated to look at DSM issues from a variety of technological, political and behavioural perspectives. Task 24 is called *Behaviour Change in DSM* and was initiated in early 2012. It was the first global research Task focusing solely on behaviour change. The various tools developed and used by the Task are described in a paper in these ECEEE proceedings (Rotmann 2017 (forthcoming)). As one of its initiatives, Task 24 has facilitated multi-stakeholder collaboration with Swedish ‘Behaviour Changers’ in three workshops to date. In the first workshop (June 2015), an issues definition (*Sub-task 6*) was undertaken, which led to the decision to focus on green leases in office buildings as the area of highest (technological, economic, societal and political) potential with the lowest risk. In the second and third workshops (March 2016 and October 2016), the ‘Behaviour Changer Framework’ (Rotmann 2016) was used to visualise the current energy system relating to green leases. It delved into the main mandates, stakeholders, restrictions and tools of each of the Behaviour Changers (*Sub-task 7*) that were present. A Swedish background study (Wikensten & Nilsson 2016) has been prepared, which includes results from a literature review, informal conversations with ten stakeholders (property owners, tenants and experts in the field), and 6 semi-structured interviews with five property owners and one tenant. In an upcoming workshop, a pilot will be co-designed by all Behaviour Changers and then trialed by the Swedish Energy Agency. It will focus on how to take green leases into green leasing – a co-creation between landlords and tenants which includes evaluation of multiple benefits to all parties.

WICKED DESCRIPTION AND DATA COLLECTION

The WICKED (Working with Infrastructure Creation of Knowledge, and Energy strategy Development) project investigated energy strategy development in the retail sector through a combination of top-down big data analytics, middle-out organisational analysis, and bottom-up empirical data collection. It was funded by the UK Engineering and Physical Sciences Research Council and ran from 2014–16. ‘Green lease’ findings from the WICKED project are based on semi-structured interviews with industry experts and participants (29 interviews with 38 representatives of 25 different organisations), as well as analysis of company strategy reports, green lease clauses in company templates, and model green lease clauses promoted

by industry partnerships, and a review of policy documents and industry reports. In addition, some partners shared large energy data sets; others allowed the project access to their premises to collect new real-time data (Janda et al. 2015). A separate paper in these proceedings explores the limits of big data in quantifying the impacts of green leases across a single retail property portfolio (Granell et al. 2017 (forthcoming)). Other papers include a comparison of green lease development in the office and retail sector in the UK and Australia (Janda et al. 2016), a paper looking at the potential interrelationship of the UK Minimum Energy Efficiency Standards (MEES) and green leases (Patrick, Bright & Janda 2017 (forthcoming)), and a paper drawing primarily on interviews with UK lawyers that explores (1) the significance of the landlord-tenant relationship, (2) the uptake and content of green clauses, (3) drivers of green clauses, (4) resistance to green clauses, and (5) the impact of green clauses (Bright & Patrick 2016).

Using this material as a basis, this paper further explores the relationship between green leases, the Energy Performance of Building Directive (as applied in Sweden and the UK), and the Australian NABERs scheme.

Context: Energy policy and green lease practice

SWEDEN

Swedish Policy Context

Sweden has a target to reduce energy intensity by 20 % from 2008 levels by 2020 and the Swedish government, has put forward a proposal in late 2016 to cut energy intensity by 50 % from 2005 levels by 2030 (Regeringskansliet 2016, 2014). Under the Energy Efficiency Directive of the EU, there is also a national annual energy reduction target of 1.5 % at end-user level between 2014 and 2020. In addition to the requirements following directly from the EU’s Energy Performance of Buildings Directive (EPBD) and the Energy Efficiency Directive (EED), the Swedish buildings and tertiary sector are targeted by several policies. The first Swedish building regulations (BBR) came into practice in 1993, and these have been updated regularly. The new building regulations place higher demands on energy efficiency, with the most recent regulations requiring about a 20 % reduction compared to the first BBR (Holmberg 2015). The Energy Performance Certificate (EPC) is a labelling scheme, used when buildings are let or sold, which is an asset rating based on operational data.

There is a voluntary sustainability rating system called ‘Miljöbyggnad’, which rates existing and new buildings according to their environmental performance. Based on the criteria covering energy performance, indoor environment, and materials and chemicals, buildings can qualify for three degrees of certification: bronze, silver or gold (SGBC 2011). There are no credits available for green leases under Miljöbyggnad, but results from evaluation seminars with relevant stakeholders indicate some interest for the incorporation of green leases in the qualification criteria (SGBC 2015). Sweden also has technology procurement groups, which create and maintain economies of scale by supporting knowledge exchange between actors within specific building market segments. Currently there are five such groups, namely BeBo for (large-scale) landlords, BELOK for landlords

renting commercial space, HYLOK for the public sector, BeLivs for the food processing and distributing sector and finally Be små for energy efficiency in new and renovated single-family houses. An estimated 20 % of commercial space and 70 % of apartments are included in these groups (Holmberg 2015).

The National Board of Housing, Building and Planning has recently (2017) been commissioned to establish an information center for renovation and energy efficiency where companies, organisations and individuals can turn for information. The aim is to give target groups a better basis for renovations and new construction. In addition, funding is available for SMEs to apply for an energy audit with a maximum support of 50 % of the cost. Only SMEs can apply for the check since large companies fall under a separate law on energy audits.

Swedish green lease practice

Landlords and tenants in Sweden have been co-operating with respect to energy for about two decades, and work to formalise this co-operation into contracts/leases has been ongoing for about a decade (Wikensten & Nilsson 2016), supported by BELOK. BELOK is a group of 21 large Swedish commercial property owners (non-residential property) collaborating to increase energy efficiency (Belok 2017). From 2006–2008, BELOK undertook a study with the aim to present contract templates which would help stakeholders formalise their co-operation. This resulted in several forms of incentive contract templates, differing slightly due to “warm” or “cold” rental leases.³ In 2010–11, Fastighetsägarna (the Swedish Property Federation) started their work on “green leases”, which resulted in an appendix contract/lease to be added to existing contracts (Fastighetsägarna 2017). Fastighetsägarna has adopted energy and environmental targets, including 20 % improved energy efficiency by 2020 compared to 2008 levels, and a 40 % reduction of emissions and the exclusion of fossil fuels. Their appendix contract (mainly for office buildings) was finalised in 2013, and soon became the market standard. To date, some 2,500 green leases have been signed.

Despite this large apparent market uptake, there has not been any coordinated effort to evaluate outcomes. This includes both Fastighetsägarna’s green lease and other tenant/landlord cooperative activities. Some issues arise around the need to change the way in energy is metered. The BBR encourages a strict division between property energy (fastighetsenergi) and tenant energy (electricity; verksamhetsel). However, tenant behaviour affects the property’s energy use. If this strict division was changed, there may be further incentives to co-operate. Much focus has been on the property owners/landlords, but tenants have also expressed a desire to have a discussion forum. One good example of co-operation is that between Vasakronan and Houdini Sportswear. Vasakronan calls itself “the world’s first climate neutral real estate company” and Houdini Sportswear is “a sustainable outdoor brand” (Houdini 2017). They are co-developing new sustainable business models and want to inspire others to follow their path. Similarly, Försäkringskassan (The Social Security Agency), was first approached by Vasakronan to sign a green lease agreement and continued to demand it for their fu-

ture agreements in various locations (Försäkringskassans 2016). They have now signed 36 green leases for their premises.

UK

UK policy context

UK building regulations set out specified energy efficiency requirements for new commercial buildings as well as renovations (DECC 2014). In compliance with the EU EED (EP&C 2012), the UK has a national energy efficiency target to reduce energy consumption by 18 % in 2020 relative to the 2007 business-as-usual projection, and a target of 1,5 % annual reduction between 2014 and 2020 (DECC 2014). The Carbon Reduction Commitment (CRC) Energy Efficiency Scheme requires companies that consume over 6,000 MWh of electricity to report and buy allowances for their CO₂ emissions (DECC 2015a). In addition, under the new Energy Saving Opportunities Scheme (ESOS), large organisations are required to carry out an energy audit every four years, measuring and reporting energy use across buildings, industrial processes and transport (DECC 2015b). In response to the EU Energy Performance of Buildings Directive (EPBD), the UK has developed two separate building labels. The main labelling scheme, used when buildings are let or sold, is the Energy Performance Certificate (EPC) which is an asset rating based on modelled data. EPCs rate properties based on age, size and building fabric and are required when buildings are constructed, let or sold (e.g., DECC 2014). Operational ratings, based on actual energy consumption data, are called Display Energy Certificates (DECs) and are currently required only in public buildings (DECC 2014). From April 2018, minimum energy efficiency standards (MEES) are being introduced, which will stop properties that fail to achieve a prescribed MEES set an EPC rating E (DECC 2015c). Only MEES recognise the importance of tenanted commercial property. In parallel, the voluntary sustainability rating system ‘BREEAM’ (Building Research Establishment Environmental Assessment Methodology) provides a common standard to enable the assessment and comparison of the environmental impact of buildings. It has been used to certify over 260,000 building assessments across more than 50 countries (BRE 2014). Under BREEAM, 2011 credits were available for green leases, which incentivised owners seeking the highest rating to negotiate green leases with occupiers. On-line commentaries suggest this was ‘unpopular’, partly because tenants did not want to accept additional obligations, and BREEAM 2014 has removed the green lease credits (Parker 2014).

UK green lease practice

The UK Better Buildings Partnership was established in 2007 to work collaboratively with leading landlords ‘to develop solutions to improve the sustainability of existing commercial building stock and achieve substantial CO₂ savings’ (UK BBP 2015). UK BBP members include ‘the UK’s leading commercial property owners’ (UK BBP 2015). It developed a toolkit providing a menu of ‘green clauses’ that parties can elect to include in leases and that provide a framework for cooperation. In addition to green leases, the UK BBP has also promoted Memoranda of Understanding (MoUs). As they “are not legally binding, [and] can be updated ... without amending the lease” (UK BBP 2013, p. 2), they provide a flexible mechanism for enabling collaboration for buildings that are already let.

3. The difference between these two is the way in which the heating is included/excluded from the rent.

Case study research in the UK has shown that green buildings do not always have green leases (Bright & Dixie 2014). Bright & Dixie (2014) studied 26 leases drawn from BREEAM-certified buildings and found that 40 % of the leases had no discernible green clauses. Sixty percent contained one or more green clauses, and these varied significantly in their content, scope and legal commitment. In a wider study of the UK retail sector, Janda et al. (2016) found green leasing is taken up in offices more than in retail, with green leases proactively driven by landlords rather than tenants. One notable exception is the British retailer, Marks & Spencer (M&S). To date, M&S has implemented green leases and written agreements about environmental improvements with multiple landlords in more than 80 of its stores, with plans for more. The study remarks that the important drivers for the M&S leasing policy were 'strong leadership and concern about climate change'. It also notes that this retailer's brand and size gives it some sway in the leasing arrangements, and that the retailer began implementing its green lease policy by working with BBP landlords first, before addressing other landlords.

AUSTRALIA

Australian policy context

The Building Code of Australia Part J sets minimum standards in respect of energy efficiency requirements for new commercial buildings and for refurbishments over a certain level of work (ABCB 2010). However, unlike the UK, where minimum energy standards were introduced in the early 1980s, energy efficiency only became part of the Australian Building Code in 2006. Subsequently, a much lower proportion of the existing stock has minimum standards. There is an intention to increase minimum energy standards over time and they were revised upwards in 2010 (ABCB 2010). Alongside the mandatory minimum standards, the Australian commercial office and retail property market is characterised by the National Australian Built Environment Rating (NABERS) system, which has tools for energy and water ratings. In 2010, The Building Energy Efficiency Disclosure Act, established the Commercial Building Disclosure (CBD) Program, which requires energy efficiency information to be provided when commercial office space of 2,000 square metres or more is offered for sale or lease (Australian Government 2015). These standards are performance ratings (like DEC's in the UK) and are made public in the form of Building Energy Efficiency Certificates or BEECs. The goal is to improve the energy efficiency of Australia's office stock and, also, to inform buyers and tenants. The rationale is that buyers and tenants can easily ascertain the level of energy efficiency and many will choose buildings with better standards that align with their leasing practices and/or corporate social responsibility policy. The voluntary Green Star environmental rating tool also sets energy standards which increase in line with the different star ratings. In comparison to the UK (discussed above), Australia has less ambitious CO₂ reduction goals.

Australian green lease practice

In Australia, the Australian Commonwealth and State Governments provided important early leadership for green leases. Australian Government agencies occupy almost 2.6 million m² of office accommodation, which accounts for approximately 13 % of the Australian commercial office property market

(Woodford 2007). In conjunction with the 2006 Energy Efficiency in Government Operations (EEGO) policy, standards were set for all new government leases of more than 2,000 m² through the use of a "Green Lease Schedule" (GLS; *ibid*).

The Sydney Better Buildings Partnership was established 2011. Like BELOK and the UK BBP, Sydney BBP aims to work collaboratively with leading landlords. Its founding members include 14 of Sydney's "leading commercial and public sector landlords" who have been joined by a further 9 organisations (Sydney BBP 2017b). The Sydney BBP also developed a template that provides a menu of 'green clauses' that parties can elect to include in leases (Sydney BBP 2013). Initially, this template did not include MoUs due to the costs of negotiation and their non-binding nature. However, recent updates to the Sydney green leasing project have included MoUs as well as the first "leasing standard" (Sydney BBP 2017a). Launched in September 2016, the BBP Leasing Standard includes a compliance logo and a lease scoring system. This enables organisations to measure their approach to better leasing on a scorecard, ranging from compliant (<25 %) all the way through to a silver (>50 %) or gold (>75 %) badge. Organisations are able to utilise the relevant logo across reports, surveys and advertising as evidence of their commitments to better leasing. Beyond the leases and associated benchmarking, the Sydney BBP also collaborated in a project called "The Tenants and Landlords Guide to Happiness" (Blundell 2013). This book showcases "real life examples where shared intentions have assisted tenants and owners to collaborate and achieve better outcomes, productivity and amenity."

The Sydney BBP has also provided quantitative evidence of the uptake of its leasing efforts in the market place. In December 2014, the Sydney BBP published the "BBP Leasing Index," covering office leasing in Sydney's central business district (CBD) (Dawson, Bailey & Thomas 2014). To compile the index, the BBP analysed leases from the public register in New South Wales (Thomas & Dawson 2014), using the Sydney BBP's Model Lease Clauses to define "green" terms (Sydney BBP 2013). Over 500 of 7,000 commercial office leases were sampled. Leases were analysed for the presence of one of 22 Model Lease Clauses. The study found there was a quadrupling of some form of green leasing between 2008 and 2014. In 2013/14, 80 % of leases in prime buildings had green lease leasing and included (on average) about 10 Model Lease Clauses. Clauses relating to cooperation, management and recycling, waste and consumption were most frequently included. Nearly a quarter of leases included a clause relating to securing or maintaining a NABERS rating. The next most common clauses relate to information sharing, environmental sustainability (a high-level commitment clause) and waste reduction. Despite this growth in the numbers of green clauses used, clause strength still lags, indicating that parties agree to collaborative frameworks but hesitate to risk dispute resolution. Although green leases have been successful in the Australian office sector, qualitative assessments suggest that they are unusual in Australian retail markets (Janda et al. 2016).

Discussion and conclusions

Consistent with Borck and Coglianese (2009), the evidence across Sweden, the UK, and Australia show that early adopters of green leases are large organisations with environmentally-friendly internal cultures facing (the possibility of) strict gov-

Table 2. Interactions between landlords and tenants.

		Tenant Strength and alignment of environmental practices.	
		Low	High
Landlord strength and alignment of environmental practices.	High	<p>Landlord-led green leasing</p> <p>Examples:</p> <ul style="list-style-type: none"> • Sweden: BELOK and Fastighetsägarna • UK & Australia: BBP landlords in prime markets 	<p>Collective action</p> <p>Examples:</p> <ul style="list-style-type: none"> • Sweden: Vasakronan and Houdini Sportswear • UK: M&S new leases with BBP landlords • Australia: <i>Tenant & landlord's Guide to Happiness</i>
	Low	<p>Collective inaction</p> <p>Examples:</p> <ul style="list-style-type: none"> • Sweden, UK & Australia: sub-prime markets, smaller landlords 	<p>Tenant-led green leasing</p> <p>Examples:</p> <ul style="list-style-type: none"> • Sweden: Försäkringskassan green lease with their landlord on Gotland • UK: M&S new leases/MoUs with non-BBP landlords; • Australia: Government GLS

ernment regulations. Unlike Borck and Coglianese, however, leaders in green leases include a broad group of landlords, tenants, and governmental organisations.

Following Gouldson and Sullivan (2014), who provide a 2 × 2 matrix on interactions between external and internal corporate environmental governance, Table 2 provides a matrix of inter-organisational environmental governance. It shows the relative strength of landlords and tenants in developing green leases. Where both have low interest in environmental practices, there will be *collective inaction*. We have seen this in all three countries in sub-prime markets. Where the landlord has more interest than the tenant, the landlord will lead. Ordinarily, the landlord has the precedent lease to give to potential tenants, so *landlord-led* green leasing is in keeping with standard practice, and it is probably the most common form of green leasing, as we saw in the three countries we reviewed. When a powerful tenant places higher priority on environmental practices than the landlord, however, it may result in *tenant-led* green leasing. We saw this example in Sweden with Försäkringskassan; in the UK with M&S; and in Australia with the government and its 2006 Green Lease Schedule. Where both the landlord and the tenant concur that environmental practices are important, there will be opportunities for *collective action*. From a market perspective, these collective actions may result in the 'greenest' collaborations. From a policy evaluation perspective of green leases, however, they may also be free riders. That is, green leases may not be necessary if both the landlord and tenant agree to cooperate outside this legal mechanism.

Table 2 suggests that it is not just the lease that matters, but also the relative power and interest of the parties negotiating over the lease. As Axon et al. (2012) suggest, these circumstances vary immensely depending on the stakeholders involved. These can include both one-to-one negotiations (small landlords and small businesses); one-to-many negotiations (as in a multi-tenanted office building); and many-to-many negotiations (large corporate property owners negotiating with large corporate tenants). These varying circumstances complicate the extent to which green leasing is likely to develop evenly across both geographic markets (e.g., cities and nations) and portfolios of both owners and tenants.

Next steps

Further research into the utility of green leases as a public policy tool could explore how well public policies fit with physical property portfolios. Going back to Gouldson & Sullivan's original framework (Table 1), we would expect to see greatest alignment where the coverage of external policy drivers matches the physical footprint of the owners' or tenants' property portfolios. For example, multinational companies with international property portfolios may have difficulty incorporating national-level voluntary policies in every country in which they operate. For these owners and tenants, an international standard for green leasing might be most effective. Although there is no international standard for green leases, one step in this direction is the Global Real Estate Sustainability Benchmark (GRESB). Established in 2009, GRESB an industry-driven assessment that reports annually on the sustainability performance of real estate portfolios around the world (GRESB 2015). The GRESB survey includes a section on stakeholder and tenant engagement, part of which focuses on the use of green leases and MOUs (Shire & Quispel 2013).

On the other hand, national public policies are most likely to align with the internal drivers of organisations that occupy, own, and operate properties predominantly in that country. This geographic perspective encourages conceptualising the public sector not just as an owner-occupier, but also as a landlord and a tenant. For example, the General Services Administration is one of the largest landlords in the United States. It owns and leases over 376.9 million square feet of space in 9,600 buildings, including offices, land ports of entry, court-houses, laboratories, post offices, and data processing centers (GSA 2017). The role of the public sector as a property owner and tenant may facilitate further study of green leases, as legal documentation, energy data, and activities in the public sector are often more transparent than in the private sector.

Previous work comparing public and private organisations show a marked difference between their comfortability and use of energy feedback to engage employees in energy reduction (Bull & Janda 2016). This has to do primarily with differences in the "core strategy" of the organisations. In the case of a public authority, the central goal is to provide services to its citizens in a cost-effective and transparent manner. A for-profit company,

on the other hand, looks to maximise profit, sometimes across national boundaries. Future research could address whether and how the public sector differs from the private sector as both owners and tenants. In particular, it could address how public and private sector commercial real estate portfolios respond to government policies and international certification schemes, with a particular focus on green leasing.

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