Business leases and energy efficiency: improvements, dilapidations, implied terms and lease renewals

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ABSTRACT

This thesis considers the two distinct areas of landlord and tenant law and building energy efficiency for older refurbished commercial buildings. Market forces are unlikely to help solve the split incentive problem by themselves. After explaining the background to green leases of which carbon reduction is only one aspect, a fictitious example is introduced to understand how and why the impact of Energy Performance Certificates (EPCs) and the MEES Regulations will impact upon business leases.

The reliability of domestic EPCs is found to be merely acceptable. Although energy efficiency of commercial buildings could be greatly improved under "deep" retrofits and such retrofits are financially viable, it is difficult to ascertain exact payback periods. However, when the physical reasons why heat seeps out from buildings (i.e., U-values, airtightness, and thermal bridges) are assessed, strong links are found to landlord and tenant law. Accordingly, to improve the EPC grade of a commercial demise by passive energy works, the building must be considered as a whole.

Using legal analogy and legal imagination to consider caselaw and Law Commission reports, possible implied statutory covenants for one party to be forced to carry out energy works are considered: something that may be possible in shorter leases.

Likewise, the present ways either for landlords to recover costs where they have done energy works, or for the tenant to recover such works as tenant's improvements are examined and in both cases are found to be barely satisfactory. Finally, for non-contentious renewals only, the contents of the renewal lease under ss. 32 to 35 of the 1954 Landlord and Tenant Act of holding, rent, lease length and other terms are

assessed with particular reference to break clauses. The Part II provisions are satisfactory, but because no guidance is given further legislation may be required.

Contents

Cases

Cases: other jurisdictions

Statutes: England and Wales

Landlord and Tenant Act 1730

Law of Property Act 1925

Landlord and Tenant Act 1927

Landlord and Tenant Act 1938

Landlord and Tenant Act 1954

Law of Property Act 1969

Landlord and Tenant Act 1985

Environmental Protection Act 1990

Environment Act 1995

Landlord and Tenant (Covenants) Act 1995

Statutory instruments: England and Wales

Statutes: Other jurisdictions

European Union legislation

International legislation

TABLE OF FIGURES

List of abbreviations, acronyms, and technical terms

Notes

Although this thesis is aimed at those with a background in landlord and tenant law, the multi-disciplinary approach means that several abbreviations, acronyms and technical expressions are used relating to energy efficiency. For convenience, the ones used in this thesis are given below, with a short definition for each, though this is not intended to be an exhaustive definition.

It will be appreciated that some expressions are used across the globe in energy literature, but others are particular to the UK, and so where appropriate, this is highlighted below.

It will be particularly useful for the first-time reader to be aware of the definitions and the units used for energy intensity, and the three ways of heat loss (insulation, airtightness and thermal bridges); together with the definitions for EPCs and MEES before continuing.

Abbreviation/term	**Full expression [or unit of measurement]**	**Explanation**
	Active heating	Any space heating or cooling of a building which uses mechanical or electrical means to heat (or cool) the space inside.
Alpha value	*This has no units as it is a ratio*	The ratio of heat loss by thermal bridge(s) to heat loss by insulation and airtightness.
Air changes/hour	ACH_{50}^{-1}	The number of times each hour the air in a building changes. The lower the value, the more airtight the building will be. (The subscript number 50 indicates the pressure at which the building is measured (i.e., 50 Pascals).)
	Airtightness	The more airtight the building, the fewer the air changes/hour and the less heat that will be lost through draughts.
BBP	Better Buildings Partnership	A collaboration of property managers and professionals seeking to reduce the environmental footprint of buildings in the UK.
BIM	Building Information Modelling	A UK-based set of specifications used in the design, construction, then operation of new buildings

		using ISO19650 and other specifications.
BREEAM	Building Research Establishment's Environmental Assessment Method	A set of benchmarks established by the UK-based Building Research Establishment used worldwide to assess the sustainability of buildings.
	Conditioned space	Any indoor space that is heated or cooled (or both). Conditioned spaces are used to determine whether or not a building (or building part) needs a separate EPC report.
BRUKL report	Building Regulations UK part L report	A report which demonstrates that a building has been constructed to Part L of the UK Building Regulations.
CREDS	Centre for Research into Energy Demands Solution	A research centre established in 2018, based across 24 UK universities, to research the transition to zero carbon.
DEAP	Dwelling Energy Assessment Procedure	Ireland's implementation of the EPB Directive; broadly, it is therefore Ireland's equivalent of the UK's EPC register.
DEC	Display Energy Certificate	A certificate required to be displayed by public authorities in buildings open to the public showing its energy efficiency.
Dilapidations Protocol	Pre-Action Protocol for Claims for Damages in Relation to the Physical State of Commercial Property at the Termination of a Tenancy	A court-approved pre-action protocol relating to dilapidations in commercial property, which tries to encourage the parties to reach settlement before litigation.
	Deep Refurbishment	Substantial refitting of older buildings for energy reasons to make them more energy efficient. Deep Refurbishment has neither a formal, nor any widely accepted definition.
DSM	Dynamic Simulation Modelling	The most sophisticated version of the commercial

		energy certification software.
	Embodied *carbon*	The amount of carbon that went into the construction of the building initially, both in materials and in terms of power consumed in building it.
	Embodied *energy*	The amount of energy that was used in constructing a building initially, both in materials and in terms of power consumed in building it.
EEW	Energy Efficiency Works	Any energy works – including work to improve both active and passive energy efficiency –carried out to a building.
	Energy assessor	A person who is licensed to carry out an inspection of a property and allocate its EPC grade. There is one training programme for residential assessors, and three different training programmes for commercial assessors (levels 3, 4 and 5) depending on the complexity of the commercial building.
Energy intensity	Kwh/m^2	The total amount of energy **each year** that is used **per square meter** of a building. This quantity includes light, heat, and other energy consumption. It is obtained by dividing the total amount of energy used by the building over a year by its floor area.
EPBD	Energy Performance Building Directive(s)	The two EU Directives which mandated EPCs and MEES in the UK, in 2002 then 2010.
EPC	Energy Performance Certificate	A certificate obtained in respect of a residential or commercial dwelling, showing how energy efficient it is by a grade from A (good) to G (poor). This is accompanied by a Recommendations Report.

		EPCs do not measure the actual energy consumption of a property, but estimate it based upon the type of building construction, the type of boiler, type of lights, the likely materials used in the walls using a table of values.
	Green Lease	This has no formal definition but is used to mean a lease in which the landlord and tenant have agreed between them to monitor and/or reduce their environmental impact. (Note that green leases will also have provisions regarding water use and recycling etc; not just carbon reduction.)
HVAC	Heating Ventilation and Control	Active heating or cooling systems which are used to condition buildings.
LCA	Life Cycle Assessments	A methodology used to work out the environmental impact of a building over its lifetime starting with the raw materials used to make it and ending with its demolition.
LEED	Leadership in Energy, Environment and Design	A US-based scheme used to assess buildings.
	Linear Thermal Transmittance	The full name for thermal bridges. See also ψ values.
MEES	Minimum Energy Efficiency Standard	Minimum standards which have applied to UK properties including commercial rented properties from 2018.
NABERS (UK)	National Australian Built Environment Rating System	A system used in Australia for a few years, which the UK government was considering implementing in the UK. NABERS uses a star-rating (not grades) and measures the actual energy consumption of the building, unlike EPCs.
NZEB	Nearly (or Net) Zero Emissions Building	A building with a very high energy efficiency, and so

		net-zero energy consumption; the building may or may not be connected to the grid.
	Part L of the Building Regulations	The part of the Building Regulations dealing with the building's energy efficiency. Part L2A deals with new buildings, and Part L2B with existing buildings.
	Passive heating	Heating from the sun, from human bodies or from other sources (e.g., computers).
	Passivhaus	A trademarked name which relates to a building style originating in Germany providing extremely well insulated and air-tight homes.
PCM	Phase Change Materials	Materials which change state (i.e., go from solid to liquid) at a specified temperature, thus absorbing large quantities of heat which can be released when needed (in the evening). See Appendix D.
Psi value (ψ value)	Measured in W/m°C. Also known as Y vals	The values used to measure thermal bridges: the lower the value, the less heat is lost.
PV panels	Photovoltaic panels	Silicone-based solar panels usually placed on the roof, to generate electrical power.
R-values	The inverse of U-values. (Units are not given as they are not referenced directly in this thesis).	The thermal resistance of a fabric. The **higher** the value, the better the insulation.
RdSAP	Reduced data Simplified Assessment Protocol	An energy assessment protocol used in the UK for residential homes only to produce the EPC grade. Compare SBEM.
	Recommendation Report	A report which must accompany the EPC for each property, showing the improvements that could be made, together with the expected savings.

RICS	Royal Institution of Chartered Surveyors	The governing body for surveyors in England & Wales.
SBEM	Simplified Building Energy Model	An energy assessment protocol used in the UK for some commercial properties to produce the EPC grade. (More complex commercial properties use the DSM or similar.) Compare RdSAP for domestic properties.
	Space heating	Heating of the interior of a building through radiators or other sources (as opposed to hot water heating). This will normally include both passive and active heating elements.
	Split incentive	In many rented properties, the landlord provides the heating and insulation, but the tenant pays the heating bills. There is therefore no incentive for the landlord to make the building energy efficient.
	Thermal bridge	A heat weakness in the envelope of a building which allows heat to escape easily. Normally found at the joins of materials or of surfaces.
	Thermal transmittance	See U-values.
TIPs	Technology Installation Programmes	An occasionally used term for energy efficiency infrastructure.
U-value	Measured in $W/m^2°C$ (not to be confused with λ or lambda value of a material, which is its thermal conductivity, measured in W/mK, also referred to often in energy efficiency literature)	The thermal transmittance of a structure (e.g., a window unit, or floorboards, or insulation) referred to often in this thesis. The **lower** the value, the more effective an insulator the material is. Building materials, and construction contracts, frequently have the U-values specified expressly.
VIPs	Vacuum Insulated Panels	A recent and expensive technology allowing very thin (1 cm) insulated panels

		with low U-values to be installed.
	Zero Carbon Hub	A Government body that operated between 2008 and 2016 to provide information and best practice for reducing carbon.

1 CHAPTER ONE: Overview

1.1 Introduction and key concepts

Introduction

As Glick and Christiansen say, "The evidence that anthropogenic climate change is an existential threat to our way of life is incontrovertible".[1] The preceding quote is not from an environmental or geography journal, but from the Energy Journal, a periodical written for the energy sector. Mason, too, within a landlord and tenant professional journal, opens an editorial with a similar quote.[2] Within the media and publicity from climate activists, climate change is frequently described as the greatest challenge of the age,[3] and questions of carbon emissions from transport, of energy use and generation and the ethics of carbon use are slowly becoming more mainstream topics of conversation and research. If sufficient measures are not taken soon, there is a risk of climate change reaching an average 1.5° rise over the next few decades,[4] a rise which could have catastrophic consequences for low-lying countries.

Across the EU, energy use in buildings accounts for 40% of all energy use,[5] and given that 59% of UK commercial properties are tenanted[6], a rough computation shows that just under one quarter of all the UK's energy carbon is produced by tenanted business properties. Non-residential buildings account for around 13% of the UK's carbon emissions,[7] and so any national strategy towards reducing carbon in the UK cannot fail to include business leases at the heart of

[1] R Glick and M Christiansen, 'FERC and Climate Change' (2019) 40(1) Energy Law Journal 2.
[2] T Mason, 'Paving the way to net zero – expect a ramp up in green policies' (2019) 23(6) L&T Rev 211, 211.
[3] G Thunberg, *No-one is too small to make a difference* (Penguin 2019) 19.
[4] J Sonnenschein *et al*, 'Minimum energy performance standards for the 1.5° C target: an effective complement to carbon pricing' (2019) 12 Energy Efficiency 387.
[5] J Von Platten *et al*, 'The Renewing of Energy Performance Certificates – Reaching comparability between decade-apart energy records' (2019) Applied Energy 113902, 2.
[6] J Patrick and S Bright, 'WICKED insights into the role of green leases' [2016] 4 Conv. 264, 266.
[7] B Elliott, R Bull and P Mallaburn, 'A new lease of life? Investigating UK property investor attitudes to low carbon investment decisions in commercial buildings' (2015) 8 Energy Efficiency 667, 669.

its thinking. Furthermore, 80% of these commercial properties will still be in use by 2050.[8] Barton states, "Because buildings last many years, action in building codes, while vital, is slow to have an effect";[9] something confirmed by Kok, Miller and Morris's assertion that just over 2% of buildings in the US are new each year,[10] and by studies showing the equivalent figure across Europe is around 1%.[11] The problem is therefore not how to build new commercial properties that are energy efficient, which will only affect one-fifth of the UK's stock even by 2050, but how to refurbish the existing commercial property stock so that the remaining four-fifths of the UK's commercial property becomes energy efficient. As Bell states:

> Although improving the energy performance standards of new buildings is important it would require a dramatic change in replacement rates for this to make a significant contribution to CO_2 reductions in the next 50 to 100 years.[12]

In the services sector, around 45% of the energy used is for space heating, a lower figure than the equivalent of around 70% in the residential sector,[13] but still a major amount of energy. Any research that can reduce the amount of energy used in heating those commercial properties, therefore, whether by reducing the energy at source or by reducing the amount of heat energy lost, will play a major part in reducing carbon consumption in the UK.

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[8] The Royal Academy of Engineering, 'Engineering a low-carbon built environment: The Discipline of Building Engineering Physics' (2010) 6.

[9] B Barton, 'Energy Efficiency and Rental Accommodation: Dealing with Split Incentives', in P Babie and P Leadbeter (eds), *Law as Change: Engaging with the Life and work of Adrian Bradbrook* (University of Adelaide Press 2014) 59, 61.

[10] N Kok, N Miller and P Morris, 'The economics of green retrofits' (2012) 4(1) The Journal of Sustainable Real Estate 4, 19.

[11] F Ascione *et al*, 'Different methods for the modelling of thermal bridges into energy simulation programs: Comparisons of accuracy for flat heterogenous roofs in Italian climates' (2012) 97 Applied Energy 405.

[12] M Bell, 'Energy Efficiency in Existing Buildings: The Role of Building Regulations', (RICS Cobra Foundation, Proceedings of the RICS Foundation and Construction Conference, Leeds Metropolitan University, September 2003).

[13] Open University: Energy and Buildings: Free Course: https://www.open.edu/openlearn/nature-environment/energy-buildings/content-section-1 Accessed 24th March 2022.

The need to try to change mindsets cannot be ignored. Beddoe *et al* point out the need to be aware of the prevailing worldview, and particularly the fact that the view of the world presently, i.e., when resources are strained, is very different to the worldview at the start of the Industrial Revolution when natural resources were abundant.[14] They envisage a different regime in the years ahead, one which is less focussed on GDP. Encouragingly, they believe that worldviews can, and should change.[15] Some have been creative and innovative in trying to find solutions to the climate change dilemma: Mosko argues that since much of the planet's present consumption is fuelled by lifestyle and culture,[16] then the arts, which in her case means dance, should be used to "reframe the environmental conversation"[17] and reduce emissions by increasing awareness of CO_2. However, her solutions are not always practical. She suggests, for example, that dance artists should perform in outdoor scenes like rivers.[18] Whilst this might enliven many business meetings, such a course of action is not realistically one that is open to most business landlords or their tenants. Nor is it only the private sector which is affected by the concerns of carbon reduction. The large number of public sector commercial properties are also affected, perhaps moving even more slowly in implementing such schemes, with Riglar stating, "It was not until the late 1980's and 1990's that systemic environmental management became a recognised discipline within UK local government".[19] Rosser, too, highlights that most local authorities still do not consider environmental factors when making decisions.[20]

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[14] R Beddoe *et al*, 'Overcoming systemic roadblocks to sustainability: The evolutionary redesign of worldviews, institutions and technologies', Proceedings of the National Academy of Sciences of North America, vol 106 (8) 2483, 2485.
[15] Ibid 2487.
[16] S Mosko, 'Stepping sustainably: The Potential Partnership between Dance and Sustainable Development' (2018) 20 Consilience 62, 64.
[17] Ibid 67.
[18] Ibid 76.
[19] N Riglar, 'Eco-Management and Audit Scheme for UK local authorities: three years on' in C Sheldon (ed), *ISO4001 and Beyond: Environmental Management Systems in the Real World* (Routledge 2017) 310.
[20] E Rosser, 'Two-thirds of councils don't consider climate change in planning decisions' Estates Gazette 29th July 2020 https://www.egi.co.uk/news/two-thirds-of-councils-dont-consider-climate-change-in-planning-decisions/ Accessed September 8th 2021.

Important though mindsets and worldviews are, this thesis focuses on the practicality of reducing space heating demand, explaining how that interacts with landlord and tenant law. Accordingly, after first outlining the methodology used and after assessing why other measures have not worked to reduce carbon, this first chapter presents relevant landlord and tenant law and introduces the Minimum Energy Efficiency Standards (MEES).[21] Later on, the ideas of the two competing energy appraisal systems are introduced, followed by an explanation of what is meant by passive buildings. Only subsequently, after outlining the science of energy loss through walls, vents and windows in Chapter Two, and after overviewing the EPC system, can the UK present legal system be examined, both for business lease renewals, and for dilapidations claims.[22] Barton suggests a carrot and stick approach, which is sometimes used within this thesis.[23] Towards the end of Barton's article, he argues that landlords should have a building warranty implied to make their rental property energy efficient or free from damp and heat loss,[24] something that is considered in Chapter Three. Subsequently, in New Zealand, a similar statute was to become law for residential homes in 2019.[25]

Key concepts

When considering energy efficiency refurbishment in the context of law of landlord and tenant, such refurbishment is strongly related to, but very distinct from, obligations in the lease for either the landlord or tenant to undertake repairs. It will be appreciated that several interrelated questions are to be considered which are: i) who carries out repairs, ii) who carries

[21] The Energy Efficiency (Private Rented Property) (England and Wales) Regulations SI 2015/962.
[22] No attempt will be made to assess the seven grounds for landlords to recover possession. However, the landlord's rights to access the property to carry out works in default of the tenant's doing works under a *Jervis v Harris* clause, and the tenant's rights to a new tenancy under s.31A of the 1954 Act will be mentioned.
[23]Barton (n.9) 62.
[24]Ibid 79.
[25] The Residential Tenancies Amendment Act 2016, New Zealand made two complicated changes. Firstly, s.6 amended s.13A of the Residential Tenancies Act 1986 to mandate landlords to provide details of home insulation in the tenancy agreement (see the new s.13A(1A)). Secondly, s.14 of the 2016 Act amended s.45 of the 1986 Act to ensure compliance with the New Zealand's existing "Healthy Homes" requirements (see the amended s.45(1)(bb)). These were then followed by further mandatory requirements under the Healthy Homes Guarantee Act 2017. See Chapter Three (3.3).

out improvements to the building, iii) who carries out energy efficiency works (EEW), and of course iv) who should pay for the repairs or improvements. Broadly, energy efficiency refurbishments are considered not as repairs, but as improvements or alterations, and accordingly, most of what is contained in present leasehold repair covenants, even where these covenants are clearly drafted and fair in scope, cannot apply to EEW. At the risk of repeating this point, it is crucial to understand that it is quite possible for a tenant or landlord to keep their part of a building in good repair and condition and so to have complied fully with their lease covenants, but without either of them being required to keep their part of the building in energy efficient repair. In addition to the wording of the repair clause itself, there is, also, a further question to ask, which is: where does the tenant's demise begin and end? It is possible that a tenant's liability to repair can extend beyond the actual area demised, but this is rare, and when considering dilapidations claims, any perusal of the repairing obligations in the lease must be accompanied by a thorough reading of the property description clause(s). A frequent wording used is for the tenant to be asked to repair its "property", or "the demised premises", which will be defined in detail in the lease.

Most commercial property leases mention repairs either requiring tenants to repair their part of the property or alternatively, landlords can carry out repairs then recover the amount from their tenants via the service charge. By contrast, landlords cannot usually recover the cost of improvements or ask the tenant to carry out improvements, so it remains crucial to distinguish between repairs and improvements. The difference between repair and renewal also needs to be understood,[26] though this is not quite as crucial as the repair/improvement distinction. In the situations where any EEW being proposed could be a mixture of repair, renewal and improvement, at this stage it is sufficient to note that although liability to repair is a separate question to any possible liability to carry out EEW, there is a very strong relationship

[26] See para 4.4 below.

between the two. It will further be shown that all these matters have a strong relationship with considerations arising under Part I of the Landlord and Tenant Act 1927 pertaining to compensation at lease end,[27] and to any renewal proceedings brought under Part II of the Landlord and Tenant Act 1954.[28]

This research focuses on *passive* measures for energy efficiency. Passive measures are defined in detail later,[29] but are essentially those areas of energy efficiency which do not require mechanical or electrical intervention. There is a focus on "non-hostile" lease renewals; that is, where the landlord has already agreed to a lease renewal in principle, and the only issue is to agree the terms of the new tenancy.[30] The related concepts of passive heating and heat loss are discussed at some length later, but for now it may be said that these are concepts of heating a building through non-mechanical sources such as human body heat or the sun's energy. Since this work focuses on passive measures only, and particularly heat loss through walls or other surfaces of a building, it follows that it is more the mechanism of the science that is of interest here, rather than the expected EPC grade or NABERS[31] rating. This is in direct contrast to the situation in legal practice where a landlord, a tenant or indeed their lawyer will be purely concerned about the pass or fail grade that the building receives. Where, however, parts of that same building are let on different demises to different tenants, and in particular where parts of the building are comprised of very different insulations, air-tightness or thermal bridges, then if that EPC grading is to have any credence whatsoever, the actions of one tenant in not insulating their particular demised area could have dire consequences for the EPC grading or the NABERS rating of the building as a whole.

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[27] See Chapter Three where implied covenants for EEW are discussed.
[28] See Chapter Five.
[29] See Section 1.7 below and the more detailed explanations given in Section 2.2.
[30] Other matters may arise such as the need to determine any interim rent payable during the renewal proceedings under s.24A of the Landlord and Tenant Act 1954, for example.
[31] NABERS stands for National Australian Built Environment Rating System.

Figure 1 below shows heat loss, in rough form only, from a domestic house.[32] No matter how efficient the heating or conditioning system is, heat is constantly being lost from the walls, roof, floors and windows. Whilst the design of commercial buildings is often different to that of houses or flats, the principles of heat loss are the same. This thesis focuses upon the problem

Figure 1 Energy loss from a private home

of eliminating or reducing that heat loss, through passive means, in the UK's commercial property stock.

1.2 Terminology, disambiguation and literature review

Terminology

Whilst the field of energy efficiency is replete with acronyms and special names, the approach taken in this thesis is to explain things in plain English, such that legal practitioners can understand it. Several words or phrases, however, need to be understood from the outset,

[32] Open University Free Courses: *Energy and Buildings: Heating a House*. Accessed 15th April 2022. https://www.open.edu/openlearn/nature-environment/energy-buildings/content-section-2.1. Figure 1 taken from the same Open University course.

namely EPC (Energy Performance Certificates)[33] MEES (Minimum Energy Efficiency Standards)[34] NABERS[35] and HVAC meaning the Heating Ventilation and Cooling systems in use. The phrases energy improvements, EEW and EPC works are all used interchangeably in this thesis. The phrase "renewal lease" refers to the proposed new lease, whether in negotiation between landlord and tenant or signed. Carbon reduction and CO_2 reduction are used interchangeably,[36] and the EPC regulations refer to the Energy Performance of Buildings (England and Wales) Regulations 2012 SI 3118.

For brevity, Part I refers to Part I of the Landlord and Tenant Act 1927, and Part II will be taken to mean Part II of the Landlord and Tenant Act 1954. It will be appreciated that the former focuses largely upon tenants' improvements, consent for alterations and liability for dilapidations at the end of a tenancy, whereas the latter focuses upon the renewal proceedings and procedure when a tenant wishes to renew their tenancy. The thesis assumes a basic familiarity with both these statutes.

Disambiguation

This thesis focusses only on carbon reduction in the landlord and tenant domain, and so other environmental concerns such as water saving devices or low environmental impact building materials are not directly addressed. Nor will it address the mandatory Display Energy Certificate (DEC)[37] system, requiring public buildings over a certain area to display their energy ratings, although such practice has been shown to improve energy efficiency.[38]

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[33] The Energy Performance of Buildings (England and Wales) Regulations 2012/3118.
[34] The Energy Efficiency Regulations (n.21).
[35] See the definition above (n.31).
[36] In other contexts, it is important to appreciate that carbon and carbon dioxide are two separate substances.
[37] That is: Display Energy Certificates which are required under the Energy Performance of Buildings Regulations (n.33) for buildings with a useful floor area of over 250m^2 (Reg 14(2)(b)).
[38] R Bull, N Chang and P Fleming, 'The use of building energy certificates to reduce energy consumption in European public buildings' Energy and Buildings (2012) 50, 103.

Crucially, this thesis will only address green leases briefly. A green lease is essentially a voluntary agreement between landlord and tenant that both parties intend to work towards reducing the environmental burden of the demised premises. By contrast, the MEES regulations go much further in prohibiting any premises being let out without a specific grade of energy certificate, presently E. More generally, environmental theories and writings are considered only insofar as they affect the discussion on landlord and tenant law and EEW for commercial properties. The other five greenhouse gases are not discussed here: only carbon dioxide.

Finally, the concept of a multi-let building needs to be understood and appreciated, being a building where the demise is split between several tenants. Within this thesis, a building is sometimes described as being either a homogeneous building, or a heterogeneous building. These are not legal terms, although they are used within the NABERS rating system; rather they are merely expressions distinguishing between buildings that are uniform in the first case and those which are converted buildings, with many different-looking parts in the second case.

Literature review

A glance through the existing literature shows that although there are many resources concerning energy efficiency and landlord and tenant law, little has been published of direct relevance for this topic. On closer examination, this would appear to be for two reasons. Firstly, this thesis focusses on the retrofitting of existing, older buildings, which is an area that until now has often been overlooked. Much of the focus in architects' journals, for example, is upon the energy savings for erecting completely new buildings. Secondly, since the UK Regulations were introduced for residential buildings quite some time before commercial buildings, much of the present UK research and analysis relates only to residential buildings. There is, however, some good news about the residential properties since, because the EPC regulations for domestic property have now been in force for 10 years, relatively recent studies have celebrated the decade of residential EPCs by carrying out research regarding the accuracy and viability of such

data.[39] Accordingly, as discussed further in Chapter Two, in the residential sector at least, there is now much data available.

Whilst not directly a source of prior literature, many previous schemes have been tried to reduce carbon, both in the UK and internationally. These schemes, together with probable reasons for failures of many of them, are overviewed in Appendix A, and are useful since they do clarify previous attempts to solve the energy efficiency problem. They are not, however, discussed further in the main body of this work.

1.3 Methodology

Aims and general precepts

As Kwaw states, "The very nature of law is such that it is spread over a wide range of human activity. This necessarily creates a wealth of material."[40] Within the context of energy efficiency and business tenancies, in addition to assessing the wide range of material mentioned by Kwaw, it is a legal scholar's business to assess the "coherence" of an existing legal order;[41] a task which must be done "from a much wider angle than the institutional role of the judge".[42] Furthermore, and by way of general comment, when using any inter-disciplinary approach, time and words are at a premium, and so some simplification is necessary. For example, energy uses in the common parts of a commercial building are not discussed here (such as elevators or escalators either in retail shopping centres or in offices) since these energy uses do not directly impact

[39] See, for example, B Harsman, Z Daghbashyan and P Chaudhary, 'On the quality and impact of energy performance certificates', (2016) 133 Energy and Buildings 711 and D Jenkins, S Simpson and Andrew Peacock 'Investigating the consistency and quality of EPC ratings and assessments' (2017) 138 Energy 480, discussed in Chapter Two.

[40] E M A Kwaw, *The Guide to Legal Analysis, Legal Methodology and Legal Writing* (Edmund Montgomery Publications Limited 1992) 152.

[41] B Van Roermund, 'Theory and Object in Law: the Case for Legal Scholarship as Indirect Speech' M Van Hoecke (ed) *Methodologies of Legal Research: Which Kind of Method for What Kind of Discipline?* (Hart 2011) 285.

[42] Ibid.

upon the relationship between landlord and tenant. Likewise, subleases and service charge provisions have been placed in an appendix.[43]

This is a practically-orientated piece of research, drawing upon the author's experience of over a decade's work as a property lawyer and yet it also seeks to be innovative in proposing suggestions for reform to both Part I and Part II. Accordingly, practitioners' law books and codes of practice are sometimes referred to, in addition to academic sources. A more holistic approach than the conventional hypothetic approach will generally be used[44] to synthesise and compare principles across the quite different disciplines of landlord and tenant law and energy efficiency. Since this is intended to be a carbo-centric thesis which does not question the assumption that humankind needs to reduce CO_2 very substantially and quickly, the concepts of carbon causing the global warming phenomenon are simply assumed.

Inter-disciplinary methodology considerations

Using an inter-disciplinary approach enables a more coherent approach to assessing the impact of climate change upon businesses, and therefore enables knowledge to be acquired and then applied[45] in assessing the practicality of incorporating energy efficiency into business leases and the statutes governing such leases. In the absence of such an approach, it is perfectly easy to, for example, suggest that climate change is of such magnitude that almost all other considerations should now be subsumed by the need to reduce carbon, an approach espoused by Extinction Rebellion *et al*. Although not specifically focused on legal methodology, Tobi and Kampen warn that, whilst a well-designed conceptual design framework can be useful in overviewing the research design,[46] such a framework can also highlight "the difference between

[43] See Appendix I.
[44] E Phillips and D Pugh, *How to Get a PhD: A handbook for students and their supervisors* (5th edn, McGraw Hill 2010) 58.
[45] K Williams *et al*, *Planning your PhD* (Palgrave Macmillan 2010) 58.
[46] H Tobi and J K Kampen, 'Research Design: The Methodology for Interdisciplinary Research Framework' (2018) 52(3) Quality and Quantity 1211.

natural science and social science".[47] Within this thesis, which attempts to draw together information and understanding from the social science of law and the science of physics, those differences will be identified and explained where necessary, particularly within Chapter Two.

The role of analogy and precedent

Precedent and analogy are often confused, and yet an understanding of the difference between these two concepts is crucial, particularly for the later Chapters Three to Five. So far as analogy is concerned, a working definition may be stated simply as follows: if we know that X has property A and B; and Y has property A and B also, but we know X also has property C, then arguably we can infer that Y must have property C also.[48] That rather dry outline of analogy is matched by a more tangible example of Golding's, which is that if Mars has an atmosphere and a similar surface to Earth, then if Earth supports life, so must Mars.[49] Golding[50] uses the legal example of an 1890's American case where, for the purposes of lost property, a steamship was found to be similar enough to an inn for the court to hold the boatowners liable when a passenger's property had been stolen from a stateroom during a steamship journey.[51] Analogy was used in that case to apply the precedent that had been previously established in a somewhat different situation, simply by finding the similarities between the situations (in the judge's opinion, at least) and applying them.

In order to highlight the principle that precedent and analogy are different, Schauer uses a simple example of a younger child wanting to stay up late, merely because her sibling used to do so at the same age,[52] stating that, "precedential constraint is precisely this obligation to follow earlier decisions just because of their existence and not because of their perceived

[47] Ibid 1212.
[48] M Golding, 'Argument by analogy in the law' in H Kaptein and B van der Welden (eds), *Analogy and Exemplary Reasoning in Legal Discourse* (Amsterdam University Press 2018) 123, 124.
[49] Ibid 123.
[50] Ibid 125.
[51] *Adams v New Jersey Steamboat Company* (1896) 151 NY 163, 45 NE 369.
[52] L Schauer, 'Why Precedent in Law and Elsewhere is not Totally (or even substantially) About Analogy' (2008) 3(6) Association for Psychological Science 454, 456.

correctness."[53] In other words, just because things have always been done a certain way does not mean that has to continue to be the case; something this thesis explores using the imagination. It is here that Brewer's alternate definition of analogy being "a way of suggesting additional premises if… the rules run out"[54] is helpful, since by examining the thought processes of past legal generations inferences may be drawn about, for example implied covenants to carry out EEW in the present legal generation.

It is suggested that an analogical approach can be especially helpful given that this is an interdisciplinary thesis. Writing within the context of interdisciplinary research, Roberts, for example, highlights that "many methods will be shared across disciplines, especially if they are characterised at high levels of abstraction (for example, reasoning by analogy)".[55] By way of a more concrete example, within the context of implied covenants in leases, analogy enables the previous literature on covenants generally in leases to be analysed, to provide some assistance in verifying whether it is possible (or, if possible, desirable) to imply energy efficiency covenants into business leases, and if so, upon what basis.[56]

The legal imagination

To the power of both legal analogy and legal precedent discussed above may now be added a third power used in this thesis: the legal imagination, which complements analogy and precedent. Whilst the traditional perception of lawyers does not readily admit of much imagination, it is submitted that the imaginative faculty is crucial when considering law reform and enjoys a long history, dating back to Coke's musings.[57] More recently, White has compared lawyers to poets,[58] stating that for a written judge's opinion, just like a poem, the legal

[53] Ibid 455.
[54] S Brewer, 'Indefeasible analogical argument' in H Kaptein and B van der Velden (eds) *Analogy and Exemplary Reasoning in Legal Discourse* (Amsterdam University Press 2018) 47.
[55] P Roberts, 'Interdisciplinarity in Legal Research' in M McConville and W H Chui (eds) *Research Methods for Law* (Edinburgh University Press 2017) 127.
[56] See Chapter Three.
[57] S Stern, 'The Legal Imagination in Historical Perspective' in A Amaya and M Del Mar (eds) *Virtue, Emotion and Imagination in Law and Legal Reasoning* (Oxford Hart 2020) 221.
[58] J B White, *The Legal Imagination: Abridged Edition* (University of Chicago Press 1973,1985) 208.

imagination provides the ability to express a change from "one attitude, one way of seeing things, to another, by an expansion of understanding".[59] It should, however, be noted that, within this thesis, analogy and imagination will not be used to determine the outcome of individual cases, but rather to analyse whether, and to what extent, changes should be made to the law itself.

Some original thought must be used for considering the interrelationship between the law relating to EEW and business tenancies since, there are, presently, almost no existing judicial decisions relating to the MEES regulations.[60] Accordingly, the research often takes the form of a legal thought experiment which entails setting up proposed amendments to the current law (often with quite small changes in wording) and then critiquing those changes. The legal imagination is used to postulate an imaginary change in the law, and then to analyse that change, using the idea that, "imagination is 'possibility thinking' – thinking of things as possibly being other than what they are, or both what they are and something else simultaneously".[61]

A visual methodology

In recent years, more emphasis has been placed upon visual methodologies. According to Rose:

> The discussion of photo-elicitation as a visual research method … noted that… many researchers… think that the images themselves are often more evocative of the sensory, as well as richer in information.[62]

Other authors concur: Pauwels, for example, states that, "insight is growing that visual (social) science" is benefited by "visualising and expressing insights in novel, more … experiential

[59] Ibid 238.
[60] It will be recalled that the MEES Regulations do not come into force fully for all tenancies until 1st April 2023. One exception is the County Court case of *Clipper Logistics PLC v Scottish Equitable PLC (unreported)* discussed in para 5.6 below.
[61] M Fettes, 'Imagination in Qualitative Research' in L M Given (Ed), *The Sage Encyclopaedia of Qualitative Research Methods* (SAGE 2008) 420.
[62] G Rose**,** *Visual Methodologies: An Introduction to Researching with Visual Materials* (4th edn, SAGE 2016) 330.

ways."[63] He continues to argue that such an integrated approach should not just be part of the humanities and social sciences. Additionally, although in the context of legal methodology and not specifically visual methodology, Westerman emphasizes that where there are many changes in the legal norms, "legal research is compelled to be innovative as well".[64] Overall, therefore, it seems that a visual and imaginative approach to legal methodology fits well here.

As part of that visual approach, an imaginary scenario is described later in this Chapter, concerning a converted commercial building which is now in need of energy efficient refurbishment. The provisions of the fictitious renewal leases will be considered in the light of the scenario where landlords are happy to grant their tenant a new lease, but substantial and expensive works will be needed to ensure the premises obtain an A, B or C grade on, or soon after, renewal.

1.4 Will market forces eventually solve the problem of the split incentive?

The split incentive

At the heart of successfully reducing carbon in all leasehold properties is resolving a problem known as the split incentive. This phrase is itself a sub-category of the "energy efficiency gap", or "energy barriers", which are the perceived reasons why people do not make energy investments in homes, businesses, cars and so forth. These reasons may be structural, such as lack of access to transport, but are very often psychological.[65]

The split incentive is a conundrum affecting both commercial and residential rented properties, and one which is not unique to the UK. It arises from the fact that whilst EEW to the

[63] L Pauwels, 'Contemplating the State of Visual Research' in S Pink (ed) *Advances in Visual Methodology* (SAGE 2012) 254.
[64] P C Westerman, 'Open or Autonomous? The Debate on Legal Methodology as a Reflection of the Debate on Law' in M Van Hoecke (ed) *Methodologies of Legal Research: What Kind of Method for What Kind of Discipline?* (Bloomsbury 2011) 93.
[65] K Lacroix and R Gifford, 'Psychological Barriers to Energy Conservation Behavior: The Role of Worldviews and Climate Change Risk Perception' (2018) 50(7) Environment and Behavior 749, 753.

property are normally paid for by the landlord, the energy *bills* are normally paid by the tenant. The landlord can therefore have no financial incentive whatsoever to make energy improvements, since he or she can never benefit from reduced energy bills.[66] Within residential properties, rented properties where the landlord does not pay the heating bill are significantly less likely to have wall insulation.[67] It is true that there are significant differences in terms of scope and impact when considering this issue between domestic and business tenancies, in that poorly insulated business properties will not affect the health of families in the same way that poorly insulated residential properties do, but otherwise the split incentive problem is identical. This issue is of such importance that commentators such as Walker have suggested there ought to be a duty to imply a condition in every residential tenancy for landlords to make energy efficiency improvements,[68] a factor which, at least in the case of shell and core tenancies, the Government's 2021 consultation for commercial tenancies was finally beginning to consider.[69]

Market forces: paying more for <u>all</u> energy efficient buildings

Residential tenancies

A market force argument suggests that, given time, commercial investors will simply pay more for such buildings. Conversely, rents for sub-standard properties will decrease as tenants steer clear of old, draughty buildings which will cost more to heat. However, focussing again on the residential sector, researchers such as Melvin point out that, since the extra amount incurred by renters is 2.7% extra power usage,[70] the difference is hardly a major one. Even if one were to be swayed by the argument that the small amount of extra fuel usage did make a difference,

[66] Barton (n.9) 61.
[67] K Gillingham, M Harding and D Rapson 'Split incentives in Residential Energy Consumption' (2012) 33(2) The Energy Journal 37, 54.
[68] R Walker, 'No More?' in R Walker and S Jeraj (eds) *The Rent Trap: How we fell into it and how we get out of it* (Pluto Press 2016) 69.
[69] Department for Business, Energy & Industrial Strategy, *Non-Domestic Private Rented Sector Minimum Energy Efficiency Standards: EPC B Future Trajectory implementation* (2021) 17.
[70] J Melvin, 'The split incentives energy efficiency problem: Evidence of underinvestment by landlords' (2018) 115 Energy Policy 342, 343.

it does not give the whole picture by itself, since Melvin's research subsequently shows that all seven of the tested parameters[71] demonstrate a strong pattern for landlords to underinvest in energy efficiency, finding "there is substantial evidence that landlords whose tenants pay the energy bill significantly underinvest in these high energy efficiency measures…leading to excessively higher energy bills and carbon emissions". Still considering the residential sector, Lowitzsch cites the high entry costs of TIPs[72] as generating energy poverty amongst low-income households,[73] and whilst some aspects of his research may not apply to business tenants, the cash flow problems faced by small businesses are arguably very similar to that of low-income households, since small businesses often cannot afford the relatively high cost of investing in projects such as solar panels, heat exchangers or, as in the case of this thesis, passive building works such as insulation.

Even when recalling the need to be cautious in applying results for residential rented properties to commercial tenancies, these findings do suggest landlords will not invest in any energy efficient technology, including those passive technologies being considered here, without either a very strong incentive to do so, or being forced to do so. After noting a correlation between those who purchase green energy, and those who install energy efficiency measures in their homes, Dato cautions landlords considering investment in energy efficiency for tenants, saying that, "Such investments are therefore risky in the case of limited tenure".[74] She then points out that "our results… show the presence of this barrier [to energy efficiency] to renewable energy adoption".[75] In other words, owning their home not only makes people more likely to carry out energy efficiency measures (which one would expect since the long-

[71] The seven parameters were: space heating, wall insulation, window thickness, water-heater system, water-heater insulation, weatherization and air-tightness.
[72] That is, Technology Installation Programmes.
[73] J Lowitzsch, 'Consumer (Co-)ownership in Renewables, Energy Efficiency and the fight against Energy Poverty – a Dilemma of Energy Transitions' (2019) Renewable Energy Law and Policy Rev 3, 9.
[74] P Dato, 'Investment in Energy Efficiency, Adoption of Renewable Energy and Household Behavior: Evidence from OECD Countries' (2018) 39(3) The Energy Journal 213, 229. Note that this is again in the residential context.
[75] Ibid.

term outlay is justified for a home owner), but surprisingly, home owners are more likely than tenants to buy green electricity.[76] This finding demonstrates it is not just costly capital energy expenditure that deters tenants from installing measures in their rented homes, but psychological barriers as well. This matter is not explored in detail in this work but is of relevance when considering commercial tenancies. Some of Dato's conclusions are questionable, however, on matters such as photovoltaic energy, where she states that it will take 25 years to recover the initial outlay for PV panels.[77] This is a figure which Fthenakis *et al* would cast doubt upon, since they find that the outlay for PV panels is often recovered in just a few years.[78] Their research is thorough in that it not only covers the PV panels themselves but also the panels' supporting fixtures and other parts of the manufacturing process required to put panels on business premises and homes.[79]

Commercial tenancies

Turning specifically to the commercial property sector, at first sight it seems that encouraging evidence can be found of a desire to improve the environment within the commercial sector from investors where, in a survey of over 700 respondents[80] drawn from US employees and investors, Robinson *et al* found that IT industries and energy industries appeared willing to pay more for green features in their building, using a Willingness to Pay contingent valuation survey. Their research showed the respondents' willingness to pay an average extra premium of 9.3% for green features,[81] and largely confirmed previous findings[82] by Kok, Miller and Morris[83] that an average increase in rent of 4% to 7% for general environmental features

[76] Ibid 234.
[77] Ibid 229.
[78] V Fthenakis, H Kim and E Alsema, 'Emissions from Photovoltaic Lifestyles' (2008) 42 Enviro Sci Technol 2168, 2170.
[79] Ibid.
[80] S Robinson, 'Demand for Green Buildings; Office Tenants' Stated Willingness to pay for Green Features' (2016) 38(3) Journal of Real Estate Research 423, 427.
[81] Ibid 448.
[82] Ibid 424.
[83] Kok, Miller and Morris (n.10) 6.

would be payable. However, on examining the data more closely, the features prioritised by most respondents were office air quality and natural light,[84] and not energy reduction. Moreover, when analysing the extra amount that respondents said they would pay for a lease that encouraged tenants to use less energy, the average extra they would pay reduced to a mere 1.17%.[85] It may safely be concluded that market forces by themselves are unlikely to reduce CO_2 much in commercial leases, and Robinson *et al* concede that "more research into [US] lease structure is needed",[86] once again highlighting the importance of the split incentive in the context of both residential and commercial leasehold properties.

Market forces: paying more for <u>retrofitted</u> energy efficient buildings

Kok's research specifically focussed on green retrofitted buildings and suggested that such buildings do generate interest from investors, even evidencing that property investors are, in practice, willing to pay a little more,[87] with rental increase happening at a greater rate for retrofitted buildings than equivalent buildings in the control sample. Whilst that seems encouraging, the same study found that other criteria used to compare green retrofitted buildings, such as whether a green building is likely to remain vacant, do not show much improvement over the control buildings.[88] Moreover, other studies demonstrate that the extra amount of rent tends not to be large. Wiencke's survey of 145 Swiss businesses found that tenants were willing to pay an increase of just 3% for lease rents.[89] Furthermore, whilst some sectors, particularly financial and building companies, claimed to be keen on green ideas,[90] overall 40% of those surveyed did not wish to pay anything extra for renting environmentally

[84] Robinson (n.80) 434.
[85] Ibid 437.
[86] Ibid 450.
[87] Kok, Miller and Morris (n.10) 12. See Exhibit 7 in their study, which compares rents before and after renovation.
[88] Ibid.
[89] A Wiencke, 'Willingness to Pay for Green Buildings: Empirical Evidence from Switzerland' (2013) 5(1) Journal of Sustainable Real Estate 111, 113.
[90] Ibid 122.

sound buildings.[91] Even in the case of retrofitted buildings, there is, then, a slight indication that tenants are willing to pay more for the green building when it is retrofitted, but overall the amount of extra rent that tenants or investors are willing to pay is very low. The case for legislation mandating parties to consider carbon reduction in commercial leases remains strong.

1.5 Existing green law and green leases

Carbon reduction and other environmental law

Part IIA of the Environmental Protection Act 1990[92] ("the EPA") imposed a regime allowing pollutants to be removed from land,[93] which does not apply to carbon and CO_2 (carbon is not a pollutant). The regime, however, requires the original polluter to pay first for remediation costs, and then if they cannot be located, can require the present landowner to do so.[94]

However, the EPA also allows the possibility of the seller and buyer of an area of land to make an agreement between them, normally in the contract for sale of land, such that for polluted land the buyer can offer to clean up the pollution in return for a lower sale price. Provided that a copy of this can be seen by the enforcement authority, such an agreement is valid. Although the idea will not be explored here, it is theoretically possible for such an agreement to be made between a landlord and tenant when the landlord is renting out a property with poor energy efficiency. This could be included in the lease where the tenant agrees to rent the premises at a lower rent, in return for promising to carry out EEW over (say) the term of a lease. It must be admitted, however, that the strong moral imperative which exists for cleaning up pollutants from land does not apply to production of carbon; to use a practical

[91] Ibid 121.
[92] The Environmental Protection Act 1990 ("the EPA"); ss.78A to 78YA of the EPA were inserted by s.57 of the Environment Act 1995.
[93] J Vaughan, 'Environmental Issues' in A Rodell (ed) *Commercial Property* (College of Law Publishing 2020) 109-111. Note that this may include not only a polluter, but anyone who makes a "bridge" or completes a pathway for existing pollutants to escape.
[94] Ibid 114.

example, homebuyers will not wish to buy houses that are built on ground contaminated by carcinogenic chemical, which the builders of new homes know very well. That same sense of urgency does not seem to exist for carbon reduction.

Carbon reduction and green leases

It will be appreciated that low energy use in buildings is only one of several environmental concerns within the building, and from a planner's perspective, the building also needs to be considered from its perspective in the community, such as proximity to transport links.[95] Since this thesis focuses upon carbon reduction, green leases are only discussed in the context of reducing carbon and/or passive heating.

Green leases are a growth area in the business sector in the UK.[96] Whilst there is no actual definition of a green lease, there are, however, certain attributes which may be usefully identified.[97] Briefly, green leases come in three varieties of light green, medium green and dark green. In a light green lease, both the landlord and tenant merely agree to share basic information about the services they use, with a view to identifying and reducing those areas where there is excessive consumption. Often, a memorandum of understanding is signed by both landlord and tenant,[98] but this is often described as being non-binding, and even if it is not so described, will not bind assignees.[99] Medium green leases may contain targets for the parties to try to aspire to and there will also usually be a covenant by the tenant not to carry out works which adversely affect the existing EPC of the premises; something that was being suggested ten years ago.[100] The highest level of dark green will typically include binding targets,[101] or

[95] R C Retzlaff, 'Green Building Assessment Systems: A Framework and Comparison for Planners' (2008) 74(4) Journal of the American Planning Association 505, 515.
[96] S Highmore, 'Green Leases – drafting for all situations' (2014) 18(5) L&T Rev 199.
[97] K Janda et al, 'The evolution of green leases: towards inter-organisational environmental governance' (2016) 44 (5) Building Research and Information 660, 663.
[98] E Walsh, *A Guide to Landlord and Tenant Law* (Routledge 2018) 147.
[99] Ibid.
[100] J Bignell, *Lewison Drafting Commercial Leases* (8th edn, Sweet and Maxwell 2013) 388.
[101] Walsh (n.98) ibid.

tenant's covenants to act sustainably in terms of repairs or by appointing a senior representative to attend environmental meetings, for example.

Perhaps the strongest criticism of such leases is that they may be concerned in general terms with reducing environmental footprint of the demised premises, but they are not directly related to the EPC rating of any particular property. Indeed, until the enactment of the MEES Regulations,[102] there was no enforcement mechanism at all for commercial properties. Some green provisions are starting to appear in tenants' handbooks, and it is possible that such handbook provisions may be legally binding if a requirement to comply with them is referred to in the lease.[103] This author has worked for several years with a shopping centre utilising the Model Commercial Lease (MCL) for new leases. Whilst the MCL has a Sustainability Schedule[104] the author has seen, with renewals under the 1954 Act, a number of existing well-advised tenants insisting on renewing their lease using the *old* lease as a template (i.e., not MCL). This sidesteps the requirement for making energy improvements, since it is conventional to use the old lease as a starting point.[105]

To summarise, it is perfectly possible for tenants to take a green lease of a property with a poor, but passable EPC rating of E and then yield it up to the landlord ten or twenty years later with the same EPC rating: By themselves, therefore, green leases are unlikely to achieve the wholescale reduction in carbon that is desirable in the UK.[106]

Part II of the Landlord and Tenant Act 1954

When considering to what extent the law in the UK should be required to intervene, and mandate buildings that are retrofitted to have a higher-grade EPC, such a question is intrinsically

[102] The Energy Efficiency (Private Rented Property) (England and Wales) Regulations (n.34).
[103] Walsh (n.98) ibid.
[104] See the Model Commercial Lease Schedule 7 at https://modelcommerciallease.co.uk/leases/ Accessed 25th January 2023. The MCL was originally commissioned by the British Property Federation.
[105] M Haley, *Renewal of Business Tenancies* (2nd edn, Law Society Publishing 2013) 267.
[106] Clause 7 of the Minimum Energy Performance of Buildings (No 2) HC Bill (2021-2022) 150 will require non-domestic buildings to have energy certificates of grade B or above by 2030.

linked to the security of tenure provisions provided by the 1954 Landlord and Tenant Act. Over the next two decades, many commercial leases will be coming to an end, and it is submitted that the interregnum period between the previous and renewed commercial leases provides an excellent opportunity for both landlords and tenants to consider the refitting required for many business properties within England and Wales to reduce passive carbon emissions. Summarised briefly, Part II of the 1954 Act enables business tenants to receive a new tenancy after their old one has expired, usually for about the same length of time and on the same terms as their old tenancy, unless one of the seven grounds (a) to (g) of the 1954 Act can be proved.[107] This thesis focusses on "friendly" renewals, i.e., those where the landlord does not intend to oppose the tenant's renewal, although the parties may not have agreed the terms of the new lease. Accordingly, there is little discussion about the seven grounds themselves.

Part I of the Landlord and Tenant Act 1927

The dilapidations issues at the end of a lease are governed by both the common law and by Part I of the 1927 Act which restricts a landlord's ability to recover damages for the state of repair of the building at the end of the lease.[108] It also lays down complex procedures to be followed to allow tenants to receive compensation for their improvements when they quit the premises at the end of their term.[109]

1.6 Introducing EPCs, NABERS and MEESs

At the time of writing, two energy measurement systems are being discussed in the UK. Accordingly, the approach utilised in this thesis is to overview them both, that is both the EPC grading system and the NABERS starred system, initially providing a summary of the differences

[107] To avoid confusing the seven grounds (a) to (g) for landlord's opposition under Part II with the seven grades A to G for energy efficiency, the former are denoted by lower case letters, but the latter by capital letters within this thesis.
[108] See s.18 Landlord and Tenant Act 1927.
[109] See s.3 Landlord and Tenant Act 1927.

between them, and then focussing much more upon the physical methods of carbon reduction by refurbishing commercial buildings.

Energy Performance Certificates (EPCs)

Whilst this is a thesis based upon landlord and tenant law, it is very important to understand how EPCs are calculated; and alongside that, how and why passive EEW can make a building more efficient. There are several different methods of calculating EPCs, and whilst this thesis outlines the main ones and briefly assesses their reliability, the focus is purely on the quantity of heat lost. Although there is a need to develop a framework of understanding, there is a paradox with the science, when considered from a lawyer's perspective, in that whilst the exact numeric figures of energy loss do not matter, an understanding and appreciation of the approximate magnitude does matter. The EPCs show the approximate amount of power that will be consumed each year per square meter for any particular property, and thus it is possible to ascertain both the financial cost in energy consumed and the amount of carbon that will be released each year. The great difficulty when considering *refurbished* buildings is that it is impossible to separate out the building's energy efficiency from its physical structure; a fact that will become increasingly evident throughout this thesis. Presently, the law does not factor in a building's energy efficiency on lease renewal discussions or on lease termination; nor is special consideration given to this aspect in the service charge.

Most people are familiar with the coloured A to G ratings given to new fridges or washers, with A being the most efficient, and G the least efficient. A similar system was introduced for buildings in the UK in 2012 after the original EU Directive,[110] which required all EU member states to produce EPCs "using either calculated, or measured energy consumption".[111] England and

[110] Council Directive 2002/91/EC On the Energy Performance of Buildings.
[111] J Crawley *et al*, 'Quantifying the Measurement Error on England and Wales EPC Ratings' (2019) 12 Energies 3523, 1.

Wales chose the calculated option.[112] Arising from that original Directive, and then from the recast Directive,[113] firstly, residential homes and then commercial properties were required to have Energy Performance Certificates (EPCs) accompanied by a list of recommendations which are both stored in a national register. Since 1st April 2018, it has become illegal to grant any new commercial lease without a valid certificate with an energy grade from A to E,[114] and from 1st April 2023, this same standard will apply to *existing* commercial lettings. Although there are several exemptions,[115] these exceptions are limited in both duration and scope; for most business landlords and tenants, therefore, a valid EPC will be required soon.

On 15th October 2019, the UK Government issued a consultation document regarding the desirability of raising the grade E to either a mandatory B or C grading for the commercial sector by the year 2030.[116] In the first part of 2021 a further consultation was issued, divided into a general part,[117] together with a more specific consultation document relating only to office space.[118] The latter consultation paper moots the idea of landlords being allowed to simply disclose their ongoing process towards becoming energy efficient, instead of obtaining an EPC.[119]

NABERS (UK)

What was being considered by the Government, in addition to the EPC scheme, was a scheme like the Australian assessment scheme which has been in place across Australia for 20

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[112] Ibid.
[113] Council Directive 2010/31/EU On the Energy Performance of Buildings (recast).
[114] The Energy Efficiency Regulations (n.102).
[115] The main exemptions are outlined briefly in Appendix B.
[116] Department for Business, Energy and Industrial Strategy, *The Non-Domestic Private Rented Sector Minimum Energy Efficiency Standards: The Future Trajectory to 2030* (2019) 8. (Hereafter DBEIS *Trajectory* 2030).
[117] Department for Business, Energy and Industrial Strategy (DBEIS hereafter)*, Introducing a Performance Based Policy Framework in Large Commercial and Industrial Buildings in England and Wales* (2021).
[118] DBEIS, *Introducing Performance Based Ratings in Commercial and Industrial Offices above 1000m^2 in England and Wales: Phase one of the introduction of a national performance-based policy framework* (2021).
[119] Ibid 15.

years now. This is called the National Australian Built Environment Rating System, (NABERS) and is based largely on emissions or energy measuring; i.e., it is output-based in that it measures the amount of energy used, rather than just measuring a notional building.[120] It is unclear, at the time of writing, what the relationship would be between a scheme such as NABERS and the present EPC grading, although the consultation papers did seem to envisage both schemes operating in parallel. What the Government believed from the consultation and is something that is highlighted in the following chapter, is that in the case of complex buildings, the EPC scheme has poor grading accuracy. The Government itself puts it succinctly:

> In short, an EPC rating will always provide meaningful information about the quality of a building's fabric and services. However, … the evidence is showing that, in buildings above 1,000m² (which tend to be more complex), the EPC rating does not translate to the energy performance of the building in practice, as defined by its energy and carbon intensity.[121]

The NABERS system, it was claimed, has succeeded in reducing carbon consumption significantly in Australia with "world-leading results".[122] The Government's consultation paper claims a 34% reduction in carbon in the last decade.[123] When considering such larger buildings, it is important not to lose sight of the fact that it is smaller operators that account for more than half the energy used in industry/ commerce in the UK,[124] but even so, the Government's belief was that there could be a better way than the EPC system.

EPC and NABERS compared

This thesis does not focus in detail on the difference between NABERS and the EPC system in the UK, but does comment about some of the differences which are relevant in understanding

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[120] See below for a brief explanation of the difference between the two schemes.
[121] DBEIS *Introducing…in Large Commercial* (n.117) 18.
[122] DBEIS, *Introducing…Industrial Offices above 1000m²* (n.118) 8.
[123] DBEIS, *Introducing…in Large Commercial* (n.117) 22.
[124] T Fawcett and S Hampson, 'Why and how energy policy should address SMEs' (2020) 140 Energy Policy 111337.

how the two systems relate to landlord and tenant law. Whichever system is used, the focus here will be upon how any ratings, grades or marks, can be utilised in a "fair" way as between landlords and tenants in commercial properties in the UK, and so determining the accuracy of either system is relevant only insofar as it helps judge that aim.

Thankfully, NABERS and EPCs use the same units. In each case, a quantity called "energy intensity" is measured in kilowatt hours per meter squared (kWh/m^2) which is the amount of energy each year that will be required for each square meter of any particular building.[125] Whichever system is used, it is, therefore, easy to compare the energy used by the particular building.

The most significant difference is that the NABERS system is end-based. In other words, a NABERS assessment considers the actual energy use of the building, as physically measured by the gas and electric meters for the building, and it then works out a star rating depending upon how efficient that building is deemed to be given its occupancy use, and area. By contrast, the EPC system is based only upon a notional building. That is, with EPCs, the actual energy consumption per year is never actually measured, but only the *notional* energy consumption, based upon a notional building. As highlighted in the subsection below discussing passive buildings, the EPC attained will be based upon a building being draughty or not draughty, well insulated (or not), and upon how many thermal bridges there are.

If, as proposed by the Government in 2021, an EPC minimum rating of a grade B should be applied to the commercial sector from 2030, then it is estimated that by 2030 the commercial property sector will need up to £5 billion to be invested in commercial properties[126] to make them energy efficiency compliant. Highmore states that the latter scenario appears to be an optimistic case since the government's figures are understated, although she does not provide

[125] This quantity (energy intensity) as measured in kWh/m^2 also has the advantage that it enables comparison for gas, electricity and oil or other fuels.
[126] DBEIS, *Trajectory 2030* (n.116) 19.

evidence as to why.[127] However, the difficulty of obtaining any sort of accurate figures is shown by authors such as Mason, whose 2019 article suggests a total figure of £1 trillion will be needed to ensure net zero carbon across the UK,[128] though this does include car charge points and investment in many other areas such as transport. Focussing again on commercial property, whatever minimum standard is chosen, whilst the cost for refurbishment will not be cheap, there will be fruit for the economy as well as the planet. For example, the Government's own estimates show that moving the minimum standard for commercial properties to a B grade as above is expected to eventually save the UK economy over £6 billion,[129] with a payback time of four to five years[130] and (in the case of the B grade scenario only) deliver the promises made under the Paris Agreement.[131] Whatever version (if any) of the NABERS scheme is chosen for the regulation and assessment of commercial buildings, and whether or not this scheme will work alongside the EPC scheme, it will be appreciated that if serious levels of carbon reduction are to be achieved, there will usually be a need for expensive works to be carried out to the many rented commercial UK buildings.

The Minimum Energy Efficiency Standard Regulations (MEES)

The MEES Regulations[132] are overviewed and reproduced in Appendix B, and only a very brief overview is given here. By way of general remark, there is significant room for misinterpretation of these Regulations: Williams points out that there is confusion even between government departments, with two different departments issuing conflicting guidance.[133] The Regulations themselves do not feature highly in this work, but the focus is instead upon the various ways in which EEW could be implemented across existing buildings in

[127] S Highmore (n.96) 200.
[128] Mason (n.2) 213.
[129] DBEIS, *Trajectory 2030* (n.116) 19.
[130] Ibid.
[131] Ibid.
[132] The MEES Regulations (n.102)
[133] P Williams, 'MEES: a good idea, badly executed' (2018) 22(2) L&T Rev 39, 40.

England and Wales requiring retrofitting. Essentially, the requirements of MEES are that for commercial property, any new lease from 1st April 2018, and any *existing* lease from 1st April 2023, must be preceded by an EPC and recommendations report which the landlord gives to the tenant. There are extensive exemptions for rented properties; some of which relate to the lease term[134] but others which relate to, for example, the proposed works to refurbish a property being too expensive.[135] Some properties may be exempt by their very nature, such as places of worship or properties of less than 50 metres squared; in other cases, exemptions apply if the building is only to be used for 2 years.[136] Crucially, there is no imposition of positive liability on either landlord or tenant to carry out EEW, and so there is no allocation of responsibility for energy works; a point which is explored further in Chapter Three.

1.7 An introduction to passive buildings and heat loss

What is a passive building?

There are two ways of heating building space effectively: One is by an active heating system, which spreads heat either through electrical power or through water radiators and pipes. These "active" heat measures, such as the traditional gas or coal fired boiler and radiator system, the heating of rooms by electrical convector or storage heaters (or, more recently, infra-red heating tiles) are not considered here.

The other way is by making sure that the heat already within that building, or that enters naturally, is hardly lost at all; this is known as a "passive" system. What is being considered in this thesis are the non-mechanical or electrical aspects or measures for preventing heat loss in commercial buildings, or in simple terms, energy efficiency for space heating. However, to understand energy efficiency, one must understand a little about heat flow, which is an idea

[134] By Regulation 20(3) of the MEES Regulations (n.102) very short leases of less than 6 months or very long leases of more than 99 years are excluded.
[135] The MEES Regulations (n.102) Regulation 32.
[136] Ibid Regulation 5.

further developed in Chapter Two. Put simply, the idea behind a passive building[137] is to reduce energy consumption to such an extent that the heat from the sun, from human beings using the building and from technology equipment, collectively provides enough heat for most of that building's needs throughout the whole year. This is where the name "passive" heating originates from. It means the flow of heat loss from the building is so small that it can be heated largely through body heat, through heat-loss from computers/PCs and through the sun's energy.

It will be appreciated that the key for refurbishing existing buildings is to ensure that the refurbishment work is carried out in such a way to achieve the exact same things as would have been achieved if an entirely new building had been erected. However, such refurbishment work can be expensive, and so the initial task in Chapter Two will be to identify and define what is meant by deep retrofits, and then to assess whether such retrofits are worthwhile financially and environmentally. Prior to doing so, we need to consider how effective EPCs are, since they are the main tool presently used in the UK to ascertain how energy efficient a building is.

By itself, the amount of energy needed to heat a particular house, or a commercial building is of little use, since homes and commercial units vary widely in their size. However, there is a single figure, shown in the energy efficiency reports, for both commercial and residential property, that can be used to compare directly. That figure is the energy intensity, or in a more long-winded format, the energy use per year per square meter of the property. This figure is expressed in kilowatt hours per square metre (kWh/m^2). According to the OU's research, the Brunck Estate in Ludwigshaven, Germany, was constructed with typical values of just 30 kWh/m^2 per year,[138] costing just 3 litres of oil per year to heat. This was then further halved to

[137] A commonly used trademarked term is the German *Passivhaus*, but the term passive building is used generically in this thesis.

[138] Luwoge (2006) 'Das 3-liter haus' as cited in Open University Free Course on Energy and Buildings Section 2.4.4 Improving Insulation Standards. https://www.open.edu/openlearn/nature-environment/energy-buildings/content-section-2.4.4 Accessed 28th September 2021.

approximately 15kWhm^{-2} per year,[139] by the *Passivhaus* Programme which was founded based on research into passive buildings by Dr Feist's research in 1991.[140]

To give an idea of scale, if those same efficiencies attained under the *Passivhaus* programme could be extended to all family homes in the UK, which average an area of around 100m^2, a mere 1500 kWh of energy would be required each year to heat each entire house. This is around one-eighth of the 11,000 kWh that is presently required for most UK family homes. If, therefore, similar savings could be achieved for most commercial buildings, then the energy savings and therefore carbon reduction in the UK would be enormous.

To give a further idea of scale within the commercial sector, a government survey a few years ago found that the hospitality sector typically uses 378kWh/m^2 and the health sector 201 kWh/m^2.[141] These, and similar figures, increase hugely where only electricity is used to heat the building,[142] but even without factoring in such an increase, they show that the UK's commercial stock presently uses nearly 20 times the energy intensity of around 15 kWh/m^2 quoted above for a passively heated residential building. Within the commercial property sector, therefore, the potential for energy savings, and so for carbon reduction, is enormous. The only questions are to what extent these changes can be brought in by passive measures, and for the purposes of this thesis, how and where such changes can be understood from the perspective of a landlord and tenant lawyer.

Once again, a note of caution should be added; translating this data from residential homes to retail, industrial or office units in the commercial property sector is not easy, since the use of industrial buildings will be different. For example, in a busy newsagent's or doctor's

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[139] Ibid.
[140] For a 90 second video summarising the Passivhaus principles, including the three principles of good insulation, good airtightness and no thermal bridging, see https://www.passivhaustrust.org.uk/what_is_passivhaus.php Accessed 11th February 2023.
[141] Department for Business, Energy & Industrial Strategy, *Building Energy Efficiency Survey* 2014-2015: *Overarching Report* (2016) 55.
[142] Ibid.

surgery, the doors could be in use many more times an hour, thus leading to greater energy being lost throughout the day than would be the case in a residential house. Nevertheless, it will be appreciated that a well-insulated office building, with highly efficient windows, constructed to a *Passivhaus* standard, should consume vastly less energy in space heating than would the same building with poor insulation.

The three main areas of heat loss

From this point on, it will be assumed that we are not considering the active methods of energy efficiency, but primarily the passive methods. When considering any passive building or building works, there are three main areas of energy efficiency which help prevent heat loss:

1) Insulation of walls, ceilings and floors;
2) Airtightness of the building envelope;
3) Reduction of thermal bridges.

The first two areas above are perhaps easier to appreciate intuitively, since most homeowners or renters are familiar with the need to put insulation in lofts, under floors and in walls. Likewise, all homeowners in the UK are familiar with the need to reduce draughts and so improve the airtightness of a house or flat.

The third area is a little less intuitive but becomes easier to visualise when it is recollected that heat is a *directional* quantity, and so heat will always try to move from the highest temperature to the lowest temperature. Heat will therefore try to escape along the easiest route possible, and hence, in a building which has both excellent insulation and airtightness, but which was constructed with steel and/or concrete girders, much heat can still be lost through those girders, or through joins between any two surfaces in the building. In other words, heat will be lost through thermal bridges. A good analogy is that of trying to keep water out of a house basement which is built in wet ground, where not only will the homeowner need to

reduce the basement's brickwork or plaster's permeability to water, but they will also need to ensure that any small gaps are plugged too.

Repair and the passive building

In the case of a large, old, draughty commercial building which is demised to different tenants, and which is about to undergo refurbishment, the liability for repair may have been split in quite a logical way between the tenants and their landlord in a way that may have worked well for many years. However, the fact that an EPC is required for any building with an independent HVAC[143] source now means that, if the EPC is to be worth the paper it is printed on, a building with a tenant who is keeping their part of the building in good repair, but not keeping it well insulated or draught proofed, could be ensuring the rest of the building receives a poor grade EPC. There is an inherent problem looming for EPCs, in that where tenants are renting part of premises, and one tenant has excellent insulation, air-tightness and low thermal bridges, but an adjoining tenant has very poor equivalent measures, that the building as a whole will not receive a good EPC grade. This may not be the landlord's fault. The details of this will be examined in Chapter Two, but for now it may be said that there is neither any existing legal mechanism for the poor energy tenant to be forced to carry out EEW to their part of the building, nor any other ability for a landlord to force that "poor" tenant to comply in other ways, by for example forfeiting the lease and granting a lease to a new tenant.[144]

1.8 A thought experiment using an imaginary example

Utilising the tools of the legal imagination discussed above, and in accordance with the visual methodology, rather than just considering a generic lease, it is helpful to consider an imaginary building. It is also helpful to consider leases of a specific duration and in a specific place, since

[143] That is: Heating Ventilation and Conditioning systems.
[144] Unless the lease expressly (and unusually) requires the tenant to undertake energy efficiency works.

although MEES is not generally concerned with lease length,[145] the 1954 renewal provisions are concerned with lease length.[146] Accordingly, a fictional example is used here for two reasons: Firstly, this enables the various permutations of tenancies within older buildings to be discussed throughout the thesis, and secondly, particularly given that this is not a full-length PhD, a fictitious example does not require any consents or further research.

Imagining a tenanted converted chapel

Accordingly, the following fictitious example of a small property with several tenants will be used: an old, converted chapel in a small town centre which has four tenants. On the ground floor both left and right are two retail shops, operating from a ten-year lease granted in 2012 and which will expire in January 2023. The space above is used for offices, perhaps by an informal "rolling licence" enjoyed with the landlord for many years. It will be assumed that the building is in a reasonable but not good state of repair, the right-hand building has a central heating system, so it is a "conditioned" building, and both buildings currently have an energy efficiency E grade.

Some years ago, the building was split into two, and now the freeholders of the right and left buildings are different. The loft, which will not feature heavily in this thesis, is a large attic flat area. The right-hand building (only) is heated throughout by an old HVAC system, whereas both tenants in the left-hand building heat their own space. As part of the conversion it will be assumed that the left hand building flat/loft (but not the right flat) is accessed via a separate entrance.[147] Finally, from a landlord and tenant perspective, it will also be assumed that each tenant has some responsibility for the repair of their area, though (again, an assumption) this is not always clear in their leases. The situation is shown in Fig. 2.

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[145] As stated above (n.134) very short leases or very long leases are excluded from the application of MEES Regulations which are not otherwise directly concerned with lease length.
[146] Under s.33 of the 1954 Act; see para 5.3 below.
[147] The reason for these assumptions will become apparent in Chapter Two – see para 2.3 below.

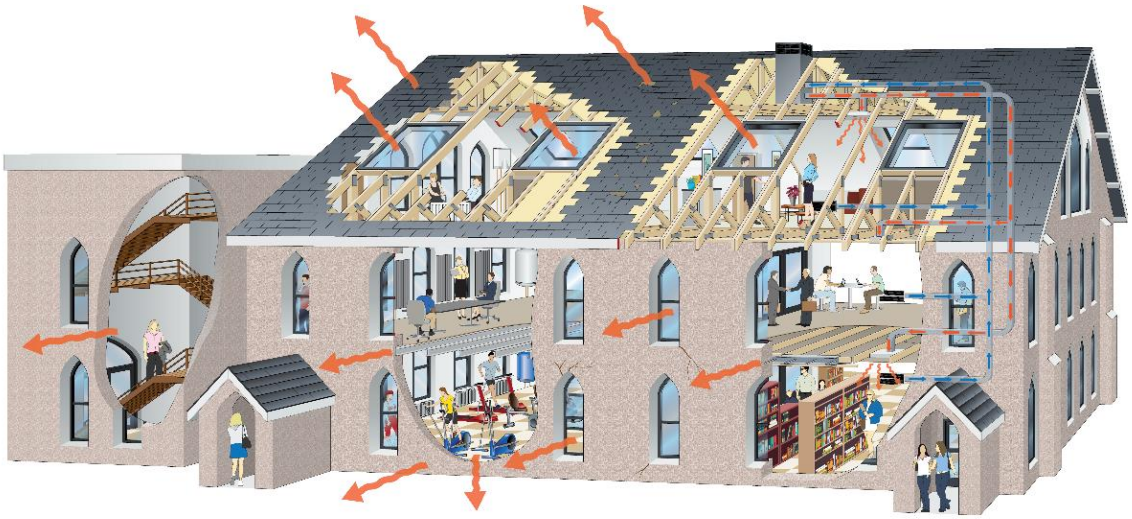

Figure 2 The imaginary building with its tenants.

Note, in particular, the lack of insulation between the ground and first floors, the cracked walls and roof tiles representing lack of airtightness, and the steel girders between the ground and first floors (thermal bridges). As stated, the right-hand part of the building has a combined HVAC system, but the left-hand building utilises separate heating systems for the ground and first floors.

One can, therefore, use this scenario to not only imagine situations where tenants straddle not only a demise with two landlords, but also where their building has two or more conditioning systems (or HVACs); a situation which for administrative reasons is already difficult, but when considered from the point of view of forthcoming energy efficiency requirements will become more complex. It will also be appreciated that, unlike the situation in Fig. 1, where there is one house with one owner and therefore one liability to repair the building, by contrast the converted commercial property has different "conditioned" areas or zones within the building, and with most leases, there is additionally different allocation of the responsibility for repair between landlord and tenants. Whilst some commercial buildings may be just as simple as residential dwellings for energy efficiency purposes, a moment's look across the average high street or office buildings (often homogeneous buildings) shows that commercial buildings are

typically more complicated; they are subdivided, converted, and have several tenants as they often have several businesses. The imaginary example used here helps visualise different scenarios as part of the visual methodologies discussed above.

1.9 Conclusions

Businesses generate a large proportion of CO_2 in the UK, and since most existing UK commercial buildings will still be being used in 2050, any effective strategy to reduce CO_2 must take the refurbishment of such business premises into account. What is needed is to reduce carbon *at source*, and to do this, one must know how much carbon is being produced, how to measure it, and then how to reduce it. Much data regarding the viability of EPCs in the residential sector is available and will be discussed in the next chapter, but it is not easy to see how interpretating this data might be usefully transferred to business leases, where a more commercial or hard-headed approach usually prevails in negotiations.

One might say that the above items such as a better understanding of CO_2 production, of the energy "gap" including the split incentive and using selective carbon taxation[148] are necessary but not sufficient. For any carbon reducing measures to be sufficient, i.e., substantially, and quickly, to reduce carbon usage within the rented commercial sector in the UK, much more will be needed. We touched above on the fact that nearly half of all energy used by commercial buildings is used to heat the space of UK commercial buildings, and therefore that any successful ways of reducing heat loss in UK buildings must focus upon the *passive* measures preventing heat loss in buildings. The possible large reductions in heating bills with effective passive refurbishment, of up to 7/8ths,[149] suggests that such passive works are well worth carrying out across the UK's commercial property stock.

[148] This is discussed in Appendix A.
[149] See para 1.7 above.

There is a welcome, but only a very small influence of market forces on green leases in the UK and so if any effective carbon reduction strategy is to ensure that CO_2 is greatly reduced *at source*, then any attempt to reduce carbon in English and Welsh business tenancies using passive measures must take the specific needs of the commercial property rented sector into account. Subject to some exceptions, business landlords and tenants enjoy almost total freedom to agree who should repair the building, or improve it (unlike residential tenancies), and if this freedom is to be largely maintained, then when discussing whether the state ought to intervene in forcing one or both parties to carry out passive heat reduction measures, one needs to understand where the heat is being lost from. In turn, it is first necessary to understand a little about the physics of heat loss and how energy efficiency for buildings is calculated, and, equally importantly, understand the likely implications of such heat loss calculations for landlord and tenant law. Only when these things are understood can matters such as: a compulsory term being implied to carry out EEW,[150] allocating responsibility for dilapidations,[151] or amending security of tenure aspects under Part II[152] all be meaningfully considered. Thankfully for property lawyers, no more than a basic appreciation of the science and of the magnitude of the figures is required, and it is to those foundational matters that we now turn in Chapter Two.

[150] See Chapter Three.
[151] See Chapter Four.
[152] See Chapter Five.

2 CHAPTER TWO: Energy Efficiency and the Physics of Heat Loss from Buildings

2.1 Introduction

As Skinner puts it, "Increasingly, researchers, funders, and policymakers have come to recognize that multiple perspectives and methods are needed to better understand and solve complicated issues".[1] This Chapter applies that principle of multiple perspectives in order to overview the way in which an EPC is calculated, stripping the process bare so as to elucidate an understanding of how such calculation affects landlord and tenant law within England and Wales. To enable meaningful discussion of possible legal reforms, it is insufficient to see the output of energy calculations which merely attribute a grade to a particular commercial property, even where that calculation also provides an estimate of the amount of CO_2 for each square metre of the property that will be generated per year.[2] Rather, it is necessary to look *inside* an EPC, to try and ascertain what physical characteristics of a building will give a good EPC result. Such investigation does not have to be with the level of detail that would be required for training energy assessors, but merely enough to acquire knowledge of how refurbishing existing buildings will impact upon energy gradings. Once again, the focus is on *passive* measures to buildings; that is, changes which do not require machinery or moving parts, but which use the natural sources of energy such as the sun, together with ambient energy within the building such as body heat of its occupants. However, as a precursor to this basic understanding of how energy performance certificates are calculated, it is necessary to go one step back in order to understand the physics of heating and cooling. Accordingly, after an assessment of EPCs and

[1] D Skinner, 'Interdisciplinary Research' in L M Given (Ed), *The Sage Encyclopaedia of Qualitative Research Methods* (Sage 2008) 447.

[2] Energy Performance of Buildings (England and Wales) Regulations 2012/3118 Regulation 9(1)(d).

NABERS, this Chapter overviews whether retrofitting old buildings is in fact worthwhile, followed by an examination of the impact of energy efficiency works (EEW) on commercial landlord and tenant law for each of the three main areas of energy loss. Drawing together material from architectural, physical science and building regulations to produce an analysis for landlord and tenant law is not easy but is the only way to ascertain how the law presently does, or does not, serve its purpose.

This section outlines the science behind the grading and covers the main ways in which energy efficiency may be improved within commercial property. No real distinction is made between whether the building is heated by oil, gas, or electricity, or whether such heat is transmitted through a wet water system using radiators, or via infrared technology through the latest ceiling panels. Likewise, the software modelling used to obtain energy efficiency grades is discussed briefly, but not analysed, and it is simply assumed that the software is of itself accurate for EPC production. As promised in Chapter One since there is much data available from residential EPCs now, the related questions of how accurate EPC grades are when compared to each other and when compared to the actual energy use in the building being assessed are both considered in section 2.3 below.

2.2 Passive efficiency measures for buildings

Controls for air conditioning and heating are found in most hotels and offices, which enable different zoning methodologies to be used for the comfort and control of different zones. Within each part of the building, since control nodes such as thermostats enable efficient distribution of particular types of heat, landlords of multi-let buildings can easily arrange for different zones of the building to be at different temperatures for different tenants. With such active systems, the focus is on ensuring the heat or cooling itself is distributed throughout the parts of the building effectively via the HVAC system. The problem is that this source of heating

or cooling only typically accounts for about 50% of a building's energy,[3] so when considering what would give a good EPC grade, the other 50% of energy also needs to be reduced too.[4] However, making savings in the other 50% is a much harder task, since energy reduction here does not depend upon active measures such as intelligent HVAC systems, but only upon passive measures, i.e., mainly reducing heat leakage in the UK's cold climate. Briefly, passive design systems enable the retention of heat energy by capturing sunlight to heat a house or commercial unit and then ensuring that such energy is not wasted. By designing the physical envelope of the building to such a rigorous standard, new commercial and residential buildings with A grade energy efficiencies can be erected, which are known as Nearly Zero Energy Buildings (NZEB). Indeed, these principles have become the trade name for an entire system of house and commercial building, known as the *Passivhaus* system. Broadly, these houses and buildings generate very low carbon emissions by studies after they have been built, with Mitchell and Natarajan finding that the claimed energy consumption of 97 *Passivhaus* buildings in the UK did match the actual energy consumption by their occupants after completion.[5] Such research is encouraging since, as those authors advise, the claimed values for fabric insulation had previously been found to be at variance with their actual values when measured.[6]

When considering retrofits, rather than new buildings, a moment's thought shows the problems of retrofitting Britain's existing commercial property stock to comply with P*assivhaus* standards or similar standards. It is impossible, for example, to reposition an entire building to capture more sun. Similarly, it is not normally easy for structural reasons to re-design existing buildings so that, for example, their window apertures are made larger after refurbishment.

[3] J A Gartner, F M Gray and T Auer, 'Assessment of the impact of HVAC system configuration and control zoning on thermal comfort and energy efficiency in flexible office spaces' (2020) 212 Energy and Buildings 109785, 1.
[4] L Perez-Lombard, J Ortiz and C Pout, 'A review on buildings energy consumption information,' (2008) 40(3) Energy Build. 394-398 (as cited in Gartner, Gray and Auer ibid 1).
[5] R Mitchell and S Natarajan, 'UK Passivhaus and the energy performance gap' (2020) 224 Energy and Buildings 110240, 6.
[6] Ibid 1.

Remembering once again the focus upon retrofitting of *existing* buildings, it will be appreciated that not only can the thermal shortcomings of existing building stock be much improved, but that there is in fact a very strong link between reducing a building's energy consumption by passive measures and the landlord and tenant law which govern the demised space within the building.

Such matters are not risk-free for the professionals involved and, even some years ago from a US perspective, Tollin[7] advised architects and other professionals to make sure that their professional indemnity covered them in the event of a "green" claim[8] where, for example, a disgruntled owner of a new building finds that it is not anywhere near as green as they expect, and therefore running costs are significantly higher.[9] The USA's LEED[10] scheme, which is broadly similar to the UK's BREEAM[11] scheme, is for new buildings only, but there is no reason why such concerns should not be valid for retrofits of older buildings in the UK as well as North America. The practical difficulties of quantifying costs, resources and other matters can make it difficult for contractors involved in any refit, whether deep or shallow, to understand the costs and timescales required in making a building more energy efficient.

2.3 Energy Performance Certificates grades and NABERS star ratings

Energy Performance Certificates

The MEES Regulations depend, in turn, upon individual properties having a valid EPC.[12] In the UK, EPCs must be obtained every ten years, and the results recorded on a public online database.[13] Although an energy assessor physically visits the property, he or she does not

[7] H Tollin, 'Green Building Risks: It's Not Easy Being Green' (2011) 23(3-4) Environmental Claims Journal (2011) 199, 201.
[8] Ibid 207.
[9] Ibid 204.
[10] LEED stands for Leadership in Energy and Environmental Design.
[11] BREEAM stands for 'Building Research Establishment's Environmental Assessment Method.'
[12] Energy Performance of Buildings (England and Wales) Regulations 2012/3118.
[13] Ibid: Reg 4(4)(a) and Reg 27 respectively.

calculate the energy loss from the actual building, but instead uses a "notional" building, with set figures from tables and spreadsheets providing values for specific insulation materials,[14] and ignoring human behaviour patterns in the building.[15] Unsurprisingly, using such default figures can lead to considerable inaccuracy if the original default figures were not accurate.[16]

Technology features highly in generating such reports, with the official Government booklet stating, "This information will be fed into an approved software programme using a government approved energy assessment method".[17] The "approved software" tools for commercial buildings are either the Simplified Building Energy Model (SBEM) for small or medium buildings, for which the assessor will qualify for level 3 or 4, or for large or complex buildings the Dynamic Simulation Model (DSM)[18] at assessor level 5. It is not always clear which software should be used. For example, if most of the floor area is residential accommodation with only a small area for a shop, then the residential rdSAP[19] procedure is appropriate. By contrast, in other circumstances one of the three commercial software packages must be used. Shops with flat(s) above them may be treated in a similar way since those shops with separately accessed accommodation above need a separate EPC for the flat, whereas shops having accommodation accessed only via the shop will not require a separate EPC and so will be assessed with commercial EPC software. Whilst it is not the purpose of this thesis to consider the different systems further, the use of so many systems does not enable easy comparisons between software packages.[20]

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[14] S Kelly, D Crawford-Brown and M Pollitt, 'Building performance and evaluation in the UK: is SAP fit for purpose?' (2012) 16 Renewable and Sustainable Energy Review 6861, 6869.
[15] Ibid, 6867 and 6875.
[16] Ibid, 6863.
[17] Department for Communities and Local Government, *A guide to energy performance certificates for the construction, sale and let of non-dwellings: improving the energy efficiency of our buildings* (London 2017) 24.
[18] The SBEM and DSM both use different software systems for measuring energy efficiency, which sit alongside the SAP and the revised rdSAP which are equivalent packages used for residential properties.
[19] That is, the reduced data Simplified Assessment Protocol.
[20] It will be assumed here that all these types of software produce roughly the same result, since a comparison of the accuracy of differing types of software is not required.

There is a separate problem with the present EPC system which becomes apparent when considering the picture of the fictitious converted chapel, where it will be recalled that the left flat is accessed via a separate entrance but the right flat can only be accessed via the shop.[21] The anomaly is that the left-hand building will need both a residential EPC and a commercial EPC, whereas the right-hand one will require only a single commercial property EPC for the whole building.[22] The government's own guidance outlines when a separate EPC is required.[23] Further, if two commercial properties are adjoined, for example, shops which are conditioned by separate systems, these will normally require separate EPCs.[24] Other possibilities for confusion arise: Where, for example, several shops adjoin a larger space, such as a station concourse, then those shops may be covered by the same EPC (if any EPC is actually required) as the larger space.[25] Because there is a lack of clarity as to what a "conditioned" space means in practice, the difference in definitions between air conditioned spaces and heated spaces does not aid either confidence in the system, or its perceived reliability.[26] Further confusion subsists over when exactly a new EPC is required for properties that are to be refurbished, either because substantial works have been carried out or because of extensions to be built. The reason for this is that the definition used for this relates to "parts" of buildings, which James and Lambert criticise for being vague.[27] The question of exactly when an EPC becomes necessary will depend partly upon how much of the building is extended or refurbished, and partly upon to what extent the HVAC system is being upgraded.[28] To summarise, with several different modelling systems utilised for residential and commercial EPCs, confusion over when separate EPCs are required, and confusion arising from when a building is considered to be refurbished, the application of

[21] See Chapter One para 1.8.
[22] The Department for Communities and Local Government, (n.17) 15
[23] Ibid.
[24] Ibid. Note that the same publication states this is not an exhaustive list of examples (Ibid 14).
[25] Ibid 16.
[26] P Freedman, E Shapiro and B Slater, *Service Charges: Law and Practice* (6th edn, Lexis Nexis 2018) 246.
[27] G James and C Lambert, 'The practicalities and reality of energy performance certificates' (2008) 12(2) L&T Rev 34, 35.
[28] Although not explored here for space reasons, there are questions of fact and degree, for both extent of HVAC and extensions, that are not always easy to determine in practice.

the various energy efficiency assessment regimes is not easily understood even when trying to understand basic concepts.

Enforcement of EPCs

Although EPC enforcement is almost completely unknown in practice at present,[29] in the future when enforcement is more widely instigated there could well be practical problems in enforcing the EPCs, particularly in the situation where the landlord is not yet the legal owner of the estate due to the increased registration gap over the last few years.[30] The registration gap is the period in time between legal completion and the final confirmation from Land Registry that the application has been successfully registered. At the time of writing, there are substantial delays on registrations on sales of part and new leases of up to 18 months,[31] and judicial comment has suggested that this registration gap might be overcome by using an agency agreement:

> [T]he time will come when every completion pack for the sale of a reversion includes a document in appropriate form constituting the transferee the agent of the transferor in respect of all matters concerning the estate transferred pending registration, a copy of which will be provided … to the tenant.[32]

However, those comments were made by the judge in the context of conveyancing notices, and it is submitted that the MEES regulations cannot be treated in the same way as conveyancing notices as they have criminal liability attached with the possibility of substantial fines.[33] In any given transaction concerning an occupational lease, if the seller landlord forgets

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[29] Centre for Sustainable Energy, 'Compliance and Enforcement of the Minimum Energy Efficiency Standard (MEES) in the Private Rented Sector: Final Report for Pilot Study (2018-2020)' July 2022, 30.
[30] P Dollar, 'That registration gap again' (2018) 22(3) L&T Rev, 98-100.
[31] M Fouzder, 'In Focus – Crisis on our hands' – Law Soc Gazette 21st October 2022, 7.
[32] Per Norris J, paragraph 41 *Pye v Stodday Land Ltd and another* [2016] 4 WLR 168.
[33] The Energy Efficiency (Private Rented Property) (England and Wales) Regulations SI 2015/962; Regulation 41 imposes a fine on the landlord of between £5,000 and £50,000 for breaches of three months or less, and up to £150,000 for breaches of longer duration.

to pass onto the buyer landlord a copy of any correspondence about EPCs which he or she has received about the property, and the local authority seeks to enforce the EPC then the results could be difficult for the buyer.

The reliability of EPCs

There are major concerns about the reliability of residential EPCs,[34] exemplified by Harsman, Daghbashyan and Chaudhary's comments that, "The results show that it matters quite a lot which [energy assessor] firm and expert are responsible for the assessments".[35] Likewise, Jenkins cites an Italian case study where 62 trainees produced EPC results with an average consumption of CO_2 of 106 kwh/m^2 per year but a comparatively high standard deviation of 22.5.[36] The anomalies in other studies arose from basic errors made by the energy assessors regarding the house-type, or selecting the wrong loft insulation or roof types.[37] The CREDS report makes similar findings, with one recent UK study showing 41 out of 43 energy assessors making incorrect assumptions as to U-values in walls.[38] One would hope that at least for the larger, more homogeneous commercial units in the UK, there might be much less possibility of such errors occurring. Nevertheless, such findings do remain of concern, not least because the UK's commercial stock is, as was shown earlier, largely not homogeneous. Elsewhere in Jenkins, significant variation in energy assessors' measurements of TFA (Total Floor Area) was evident, with an average variation in the sample being found of nearly 14%.[39] To put this in layman's terms, a variation of over one-eighth in the measurement of floors does not provide reassurance for the public that EPC surveys are reliable.

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[34] It will be recalled that most EPC data available is for residential, not commercial properties.
[35] B Harsman, Z Daghbashyan and P Chaudhary, 'On the quality and impact of energy performance certificates', (2016) 133 Energy and Buildings 711, 719.
[36] D Jenkins, S Simpson and Andrew Peacock 'Investigating the consistency and quality of EPC ratings and assessments' (2017) 138 Energy 480, 486.
[37] Ibid 488.
[38] Centre for Research into Energy Demands Solution (CRED) and the UCL Energy Institute, *Energy Performance Certificates: Response to DBEIS 'Energy Performance in Buildings: call for evidence'* (CRED Oxford, 2019) 7.
[39] Jenkins *et al* (n.36) 483.

Hardy and Glew demonstrate that the largest source of error in EPCs was in the energy assessors' choice of wall and floor types, which one would have thought are easy items to check.[40] They also show that, after making statistical adjustments, between 36 to 62% of EPCs are likely to have at least one error.[41] More encouragingly, however, that same study found the average error in EPCs was just 4 points in magnitude, which was just within the Government's target of 5 points for 95% of properties.[42] However, closer inspection by Crawley *et al* reveals that this apparently acceptable error size varied widely across grades, showing only a 2.4 % error for a B grade, but a substantial 8% error for a grade F.[43] The CRED report comments on even worse scenarios, with errors of up to 24 points for residential dwellings at grade E.[44] At the very point, therefore, where accuracy is of most importance in giving a pass or a fail, the magnitude in error is large.

One final foray into the world of residential properties, returning again to Kelly *et al*'s article, shows that when comparing two sets of residential EPC summary data a decade apart, whilst the median of the grades had improved, hardly any change at all had occurred in the proportion of properties in the upper grades of A and B.[45] Although the equivalent certificates for commercial property have not yet been available for a decade, and so such comparisons cannot be made for commercial data, the authors of that report point out that if net zero is to be attained by 2050, much more progress has to be made with attaining those higher grades.[46]

EPCs a decade apart

Because in the residential sector it has been mandatory for private homes to obtain energy efficiency certificates for a longer time, it has recently become possible for statisticians to pair

[40] A Hardy and D Glew, 'An analysis of errors in the EPC database' (2019) 129 Energy Policy 1168, 1172
[41] Ibid 1176.
[42] Ibid 1176.
[43] J Crawley *et al*, 'Quantifying the measurement error on England and Wales EPC rating' (2019) 12 Energies, 3523, 16.
[44] CRED (n.38) 10.
[45] Kelly *et al* (n.16) 6864.
[46] Ibid.

the initial EPC results with the subsequent EPC obtained a decade later for comparison. Crawley *et al* analysed paired data for 1.6 million of the UK's residential properties for those properties which have had two EPCs undertaken, and by doing so, showed that these data pairs also reveal high error rates. For example, an E graded property had nearly a 1 in 4 chance of being allocated a D grade by mistake, and a 13% chance of failing by being an F.[47]

From these UK studies, therefore, an overall picture emerges of residential EPC reports being reliable on the one hand, and yet not particularly accurate, particularly for the lower energy gradings. Although those two studies were of residential properties' EPCs, this is also a matter of great concern to commercial landlords, since it is precisely those grades below E which would prevent their business premises being lawfully tenanted under the present MEES Regulations.[48]

Other reliability concerns

There are other concerns about EPC reliability which are not intrinsic to the system itself, but which relate more to the propensity of governments to keep overhauling the system. For example, in a 2016 study of the equivalent Danish system, Brøgger and Wittchen found the Danish system had been revised five times since its inception in 2006.[49] Whilst their study did find some constants throughout all these revisions, for example that a B grade residential certificate (as revised) still had a maximum threshold of energy intensity of 70 kwh/m^2 per year, they also found that the other grade boundaries had changed significantly.[50] Moreover, James and Lambert advise that UK EPCs are inflexible, in that they do not give better results when buildings are used more efficiently with more users in one floor of the office, stating, "Contrary to popular belief, the EPC does not give an indication of how the building performs in normal

[47] Crawley *et al* (n.43) 17 and 18.
[48] The Energy Efficiency Regulations (n.33).
[49] M Brøgger and K Wittchen, 'Energy Performance Classifications Across Shifting Frameworks' (2016) 161 Procedia Engineering 845, 846.
[50] Ibid.

everyday operation".[51] This failure to consider occupancy rates inevitably means that a building with many office users will have the same efficiency grade as a building with very few office users. This has the same lack of logic as a full airliner receiving the same environmental grading as a largely empty one since in both cases, although the total energy used may be the same, the concept of fuelling an empty jet or of heating a vacant office seems wasteful.[52] Nevertheless, that is the illogical result of the present EPC system.

The performance gap

Jenkins *et al* focus on the need not only for EPC grades to be internally valid, or of sufficient consistency with each other, but also for such grades to match the measured energy performance of the building,[53] stating that the performance gap between model EPCs and an actual building is "well-known".[54] This problem of the predicted EPC grades not matching the measured performance of a building is something known as the performance gap. Such a gap arises for a number of reasons, but primarily because the notional building that is used for performing EPC calculations utilises standard U-values and other values from a spreadsheet or table. Jenkins cited difficulty with older properties in obtaining accurate U-values[55] possibly since older properties are not well specified in SAP-based models due to difficulties in defining the heat transfer properties of the building fabric.[56] Once again in the context of comparing EPCs a decade apart, Von Platten also points out that there is a performance gap which is found to exist even after the revised standards and methods of energy calculations are discounted.[57] Heat-transfer properties, or U-values, are discussed more below, but where the heat conduction properties of an older material in an older house is not known (perhaps because the material is

[51] James and Lambert (n.27) 35.
[52] By contrast, NABERS does take occupancy into account: see para 1.6.
[53] Jenkins Simpson and Peacock (n.36) 481.
[54] Ibid.
[55] Ibid 483.
[56] Ibid.
[57] Von Platten *et al*, 'The renewing of Energy Performance Certificates – Reaching comparability between decade-apart energy records' (2019) 255 Applied Energy 113902, 9.

not produced any more) any default value used in the EPC can only be a guess. Nor is the problem of the performance gap limited to older buildings, since according to Mitchell and Natarajan, field testing of new-build residential properties shows that the heat loss in practice is around 50% to 60% greater than the heat loss which was predicted.[58] Encouragingly, after refitting work, Cozza *et al* found that the performance gap greatly reduced (i.e., the building performed as expected) perhaps because the U-values of materials placed into the building were known accurately.[59]

The concerns about EPC performance are indeed major. McAllister and Nase advise that:

> Fairly fundamentally there is concern that the EPC rating may be an inappropriate performance standard for the policy instrument [MEES]. There is a body of empirical evidence illustrating an energy performance gap in both residential and commercial properties between energy ratings based on hypothetical performance and actual energy performance in use.[60]

The key word in the preceding quote is "hypothetical", since it will be recalled that EPCs produce a grade which is based only upon a notional building, and not a grade which relates directly to the actual energy used in the specific building. This leads to some anomalies which are so pronounced that they would be amusing if the subject matter were not so serious. For example, McAllister and Nase reference one study which found that properties which had been graded B used more energy per square meter than E rated buildings,[61] and another study similarly found that the equivalent scheme in the USA (the Energy Star Scheme) is equally

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[58] Mitchell and Natarajan (n.5) 1.

[59] S Cozza *et al*, 'Do energy performance certificates allow reliable predictions of actual energy consumption and savings? Learning from the Swiss national database' (2020) 224 Energy and Buildings 110235|10.

[60] P McAllister and I Nase, 'The Impact of Minimum Energy Efficiency Standards: Some evidence from the London Market' (2019) 132 Energy Policy 714, 715.

[61] Study by Jones Lang Lasalle (2012) 'A Tale of Two Buildings: Are EPCs a true indicator of energy efficiency?' cited in McAllister and Nase ibid 715.

erratic.[62] More pertinently, when such buildings have been measured to check their actual energy consumption against the notional consumption predicted by the EPC, a very high average measured deviation of 34% was found.[63] This is admittedly less than the 50% to 60% shown by Mitchell and Natarajan for residential properties above,[64] and yet, even so, if it were known across England and Wales that the measurements for energy consumption varied by over a third, it is submitted that there would be a lack of confidence in the entire EPC grading system.

Overall, therefore, in the presently used EPC system, EPC grades do hold up to valid scrutiny, but only just, and they appear to be a rather blunt instrument. There are major discrepancies ("the performance gap") between the actual energy usage and the calculated energy usage. On the positive side, the inaccuracies of and the concerns regarding the present EPC system often appear to arise from simple, and therefore, hopefully easily correctable errors; and the outcomes and aims of the system are at least easily understood with its coloured bandings for each property. However, when considering EPCs from a landlord and tenant perspective there is significant cause for concern about the lack of accuracy particularly where one heated or conditioned building is to be multi-let to different tenants, since a failed certificate of F or G will mean that the entire building cannot be validly let.

Using either EPCs or NABERS to measure refurbished buildings

Whichever scheme is used (or even a combination of the two schemes if both schemes should eventually be retained) it is not possible for carbon produced, and therefore for any passive refurbishment element to be minimised just by choosing one scheme. The information above for EPC and NABERS has been provided merely to verify how accurate both schemes are, and in the simple fictitious example with the four tenants in paragraph 1.8, whilst it is possible

[62] A Devine and N Kok 'Green certification and building performance: implications for tangibles and intangibles' J Portfolio Manage (2015) 41 151 as cited in McAllister and Nase (n.60) 715.
[63] Ibid.
[64] See n.58 above.

that choosing either of the EPC scheme or NABERS scheme might produce better results for some of the tenants or the landlord, whichever scheme is chosen obviously cannot reduce the amount of CO_2 emissions. Likewise, considering the active ways of energy efficiency improvement as well as the passive, even the most efficient HVAC system cannot reduce the amount of energy lost through poor insulation, through draughts/lack of air-tightness, and through metal or concrete girders (thermal bridges).

2.4 Are deep energy efficiency retrofits worthwhile?

It is worth emphasising again that reducing the overall heat loss will require significant refurbishment across the whole building, which entails not just replacing the HVAC system but often carrying out substantial passive refitting works. Prior to considering the impact of such refurbishment on heat loss and landlord and tenant law, it is first necessary to ascertain whether these refurbishments are worthwhile.

Embodied energy and deep retrofits

The question of whether it is either financially or environmentally cost effective to carry out major refurbishment works entails balancing the amount of energy saved over the remainder of the building's lifetime against the extra energy involved in refurbishing the building in the first place, which is a question often linked to the fabrication of the building more than the HVAC system.[65] To know these amounts, one must know approximately how much energy was originally utilised in total in building, repairing and demolishing the building, a quantity known as "embodied energy". This is a matter that has received little or no mention in the European primary energy legislation; indeed Hu and Milner highlight that the original Energy Performance Building Directive (EPBD)[66] made no provision for embodied energy, focussing solely upon heat

[65] S McClary, 'Retrofitting: the trouble with existing buildings' Estates Gazette 30th January 2020. https://www.egi.co.uk/news/retrofitting-the-trouble-with-existing-buildings/ Accessed 12th April 2022.
[66] Council Directive 2002/91/EC On the Energy Performance of Buildings

loss and energy efficiency within buildings after construction.[67] Hu and Milner cite Kneifel *et al*'s findings that the greater the energy efficiencies that have been achieved already, the more the amount of embodied energy which was used to refit the building becomes of importance.[68] One point to note prior to answering this question is to clarify a definitions problem, since when ascertaining whether more expensive energy efficiency building retrofits have been worthwhile, one must not only know what a retrofit is, but also be able to identify what a significant refit is, or (to use the prevailing terminology) what is meant by a "deep" refurbishment. Regrettably, there is presently no consensus as to what is meant by a deep retrofit,[69] since different writers use very differing definitions. However, in whatever way that term is defined, it will assist to know how the lifetime energy use of a building (typically by tenants) relates to its total energy consumption during its construction and demolition (almost always by landlords). Thankfully, the units used, of kg/m^2, are the same units used for measuring CO_2 per metre squared that are used in both EPC certificates and in the proposed NABERS scheme, thus enabling easy comparison.

Life cycle assessments

De Oliveira Fernandes and his team, who surveyed three archetypes of Dutch residential property that were undergoing refurbishment, found that life cycle assessments (LCA) showed clearly that the buildings were worth refurbishing for energy savings. It may be remarked that in her research, heat pumps and other active mechanisms were included as part of a typical refurbishment,[70] i.e., not just passive materials, but since this would be the case in many

[67] M Hu and D Milner, 'Visualising the research of embodied energy and environmental impact research in the building and construction field: A bibliometric analysis' Developments in the Built Environment (2020) 3 100010, 100010.
[68] Kneifel *et al* (2008) in Energy Build. 160 'An exploration of the relationship between improvements in energy efficiency and life-cycle energy and carbon emissions using the BIRDS low-energy residential database' cited in Hu and Milner ibid.
[69] A Jones, 'Investigating Deep Retrofits for Toronto's Financial District Office Towers' (2013) 5(1) The Journal of Sustainable Real Estate 206, 209.
[70] In assessing the environmental savings, a lifetime of 30 years was taken for the materials used in the refurbishment, and so clearly the results may have varied if a lesser or greater timescale was used.

refurbishments in practice, that adds to rather than detracts from the validity of the research. Curiously, high-end and low-end retrofits both fared better environmentally than intermediate refits, causing the authors to conclude with a statement that "In all cases, retrofitting pays off… it does not automatically follow that more is better".[71] Amidst the good news that such refits are worthwhile, there is a note of caution from these authors, who state that their results were dependent upon the Dutch energy system's present reliance on fossil fuels,[72] so what seems a good decision now environmentally might not still be so in 10 or 20 years' time.[73]

It was shown in Chapter One that tenants and investors are willing to pay a small amount of extra premium for a "green" property, and, in a similar way, studies have been carried out to verify whether this would be the case for those tenants or investors considering rented retrofitted properties. Encouragingly, one study (which[74] defined a deep retrofit as meaning retrofits costing over $75 per square foot)[75] showed that American commercial tenants are indeed willing to pay about 7% extra for rents for retrofitted buildings.[76] However, such figures should perhaps be treated with caution for the reasons which were discussed in Chapter One.[77] By way of warning, Alita Jones (who takes a second definition of a deep retrofit as being any refurbishment which is expected to save 30% to 50% of energy after the refit is completed) is critical of Canadian schemes which only focus on lighting, or active measures such as HVAC efficiency systems, stating, "Though this type of strategy addresses the needs of the certification program, it does not use the whole building approach to achieve the more substantial energy

[71] M A de Oliveira Fernandes *et al*, 'Material versus energy related impacts: Analysing environmental trade-offs in building retrofit scenarios in the Netherlands' (2021) 231 Energy and Buildings 110650 11.
[72] Ibid.
[73] Ibid 12.
[74] N Kok, N Miller and P Morris, 'The economics of green retrofits' The Journal of Sustainable Real Estate (2012) 4(1) 4, 19.
[75] That was then around £350 per square meter, which is roughly £400 per square meter today, in UK money.
[76] Kok, Miller and Morris (n.74) ibid.
[77] S Robinson, 'Demand for Green Buildings; Office Tenants' Stated Willingness to pay for Green Features' Journal of Real Estate Research (2016) 38(3), 423, 427; also, Kok, Miller and Morris (n.74) 19.

reductions associated with deep retrofits".[78] In other words, according to Jones, as well as active measures such as HVAC systems, effective passive measures will be needed too, such as refitting with insulation and taking air-tightness measures. Von Platten and her team (who use yet a third definition of deep retrofit as meaning any refit which is greater than 70% of the cost of the new building)[79] found a sizeable reduction of 40kwh/m^2 per year energy intensity for deep-retrofitted buildings,[80] providing strong evidence for the success of such schemes.

The Carbon Emissions (Buildings) Bill which was halted in Parliament in early 2022 would seem to be a step forward in requiring the carbon used across the lifetime of a building to be measured, and limits set, but it remains to be seen if this will ever make the statute books.[81] Overall, what may be said in summarising is that carrying out such deep retrofits of commercial buildings does seem to be very worthwhile, both for economic reasons and for environmental ones.

Embodied energy in retrofitting old commercial property

Assuming from the preceding paragraphs that deep retrofitting is worthwhile, two further specific but interrelated questions still need to be answered prior to focussing on the three main methods of energy efficiency in the latter part of this Chapter. Those questions are; firstly, will the amount of energy saved in heating be less than the amount of energy used in refurbishing the buildings and secondly, would it not be even better to simply build brand new buildings rather than to merely refit old ones? These questions are not easy to answer, since, just as the concept of embodied emissions was ignored in the EPBD Directive,[82] in a similar manner

[78] A Jones (n.69) 209.
[79] Von Platten *et al* (n.57) 3.
[80] Ibid 8. (See bar-chart c) 'Degree of Renovation').
[81] The Carbon Emissions (Buildings) Bill HC (2021-2022) [23].
[82] Hu and Milner (n.67) 100010.

according to Prabatha, studies and policies since that Directive have also "largely neglected" the topic of embodied emissions.[83]

Do retrofitted buildings take more embodied energy in the refurbishment than they will save?

The first question is raised and answered, in part at least, by studies like Weiler, Harter and Eicker's, which shows that "the energy use is gradually shifting from the use stage to the production stage".[84] They assert that although less energy is being used to heat or power buildings when they have been refurbished, such energy is being increased in the refitting of such buildings. This is a crucial point to explore, since if the reduction of CO_2 from the lifetime use of a building by tenants is achieved merely by large amounts of energy being subsumed into the refitting process itself, there could only ever be a pyrrhic victory for climate protection. In order to provide hard data to resolve this question, Wallhagen *et al*[85] used a basic Excel spreadsheet within a project known as ENSLIC[86] to show that the service life of a building does have a major impact upon its percentage of contribution to CO_2. For example, a building with a short service life of 10 years would have 86% of its overall CO_2 emissions produced from its construction, but one with a much longer service life of 100 years will have only 37% produced from construction.[87] For the studies referenced in this thesis, a fixed lifetime of 50 years has been assumed.[88]

Similar research was undertaken using a software package known as SimStadt, where Weiler Harter and Eickers' research considered the total energy use of a building within a Stuttgart city

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[83] T Prabatha *et al*, 'To retrofit or not: Making energy retrofit decisions through life cycle thinking for Canadian residences', (2020) 226 Energy and Buildings 110393, 2.
[84] V Weiler, H Harter and U Eicker, 'Life cycle assessment of buildings and city quarters comparing demolition and reconstruction with refurbishment' (2017) 134 Energy and Buildings 319, 319.
[85] M Wallhagen, M Glaumann and T Malmquist, 'Basic building life cycle calculations to decrease contribution to climate change – Case study on an office block in Sweden' (2011) 46 Building and Environment 1863.
[86] Ibid 1864.
[87] Ibid 1870.
[88] See Wallhagen *et al* (n.85) 1865 and Weiler *et al* (n.84) 322. Fifty years is the standard comparison lifetime.

quarter to assess the energy used in three stages for each building.[89] Those three stages were designed to show the energy use of a building from cradle to grave,[90] and were: firstly, the construction, that is the production energy costs in deriving raw materials, transporting them to the site and the construction process itself;[91] secondly, the energy used during the building's lifetime to heat and light the building;[92] and thirdly, the energy used during the disposal or demolition.[93] Their study found that the energy used for disposal accounted for only 2% of the total in typical cases[94] So, apart from the environmental costs incurred by the construction, the vast majority of the remaining CO_2 emitted from any commercial building comes from the daily tenants' use. Some of the figures and approaches used in that study are questionable in that it, for example, assumed by default the worst possible environmental cost for disposal of rubble and old materials;[95] and as the authors themselves commented, the different types of materials (concrete and honeycomb bricks, for example) are difficult to compare directly.[96] Furthermore, using such a single approach does not always work across different countries. In Sweden, the researchers Liu, Rohdin and Moshfegh[97] found, for example, that the building types most likely to benefit from refurbishment were multi-storey wooden buildings, which are not building types that are common in the UK.

Would it not be better to just demolish and rebuild?

The second question of whether it is "better to refurbish an existing building than to demolish it and reconstruct with a better standard",[98] is now considered. Nouvel *et al* also

[89] Weiler *et al* (n.84) 320.
[90] Ibid.
[91] Ibid.
[92] Ibid.
[93] Ibid.
[94] Ibid 326.
[95] Ibid 322.
[96] Ibid 328. The first of these materials, concrete, takes up less embodied energy, but it also takes more embodied greenhouse gases when it is poured.
[97] L Liu, P Rohdin and B Moshfegh, ''Investigating cost-optimal refurbishment strategies for the medieval district of Visby in Sweden' (2018) 158 Energy and Buildings 750.
[98] Weiler *et al* (n.84) 326.

utilised SimStadt, which was adapted to plot CO_2 emissions for towns zone by zone[99] in order to build up a detailed picture of the energy use of zones of a city. In a study analysing this question, research showed a much smaller environmental payback period of just 4.5 years for refurbishing older buildings, compared to 7.5 years payback period for the construction of new, energy efficient ones.[100] Whilst these findings are encouraging, however, a note of caution is in order since, although applications such as the ENSLIC spreadsheet or bespoke software such as SimStadt may make it easier for architects and engineers to calculate and compare the energy output for particular building types, they do not give a picture of the environment *within* the building. In other words, these packages may model the *inter*-building use of energy across a particular zone of a city, but they cannot model the *intra*-building use.[101] Other researchers, such as Monien *et al* have compared different software packages such as SimStadt with Transsys to try and model heat loss from homes and commercial buildings, but have had only limited success due in part to the lack of up-to-date information showing, for example, whether particular buildings have been refurbished or whether accurate U-values are being used.[102] The question of whether such software could be adapted so as to model heat loss *between* the various floors of a building containing several tenants is not explored here for space reasons.

Overall, however, it would seem that refurbishing existing buildings is an environmentally sound principle in reducing CO_2, since the energy which will be saved in future heating and powering of the building is obviously related to the expected lifetime of the building and, hence, there is a strong case for not simply demolishing old buildings and replacing them with new,

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[99] R Nouvel *et al*, 'SimStadt: a new workflow – driven urban energy simulation platform for GML city models', Researchgate. https://www.researchgate.net/publication/312997307_SimStadt_a_new_workflow-driven_urban_energy_simulation_platform_for_CityGML_city_models. Page 889. (2015).

[100] Weiler *et al* (n.84) 326.

[101] This is more the function of Building Information Modelling (BIM) software, and such packages are outside the scope of this thesis. For an example of statistically modelling energy consumption across an area of a city (Geneva) see Tardioli *et al*, 'A methodology of calibrating building energy models at district scale using clustering and surrogate techniques' (2020) 226 Energy and Buildings 110309.

[102] D Monien *et al*, 'Comparison of building modelling assumptions and methods for urban scale heat demand forecasting' (2017) 3(2) Future Cities and Environment 2.

energy efficient ones, even if there were the funds to do that. Indeed, so much is it the case that after refurbishment the newly retrofitted buildings are far more energy efficient that Weiler *et al* state, "With high levels of insulation … the energy demand in the use stage decreases to a similar level as for the newly constructed buildings".[103]

The three ways of heat loss in buildings

The remainder of this Chapter focuses upon heat retention or the ways of preventing heat loss in a passive building, considering insulation, air-tightness and thermal bridges in turn. If the percentage energy used for space heating for energy needs in commercial buildings is 45%,[104] an initial oversimplified approach might suggest that if insulation is improved throughout all buildings, most EPC certificates would then be sufficiently good to pass the test, whether such test is for a grade E, as presently, or B or C. However, since there are other two strands, i.e. air-tightness and thermal bridges which are also of relevance, good insulation is only part of the solution in ensuring a building has a low space-heating bill, and in order to understand the whole picture, it is necessary to first outline the physics of energy efficiency by explaining what energy efficiency is, how it is measured, and how energy improvements can be made. This scientific summary is then used to explain briefly how the gradings of EPC certificates are arrived at. Scientific research covering energy efficiency is complex, but thankfully only an overview of the physics is required to lay the foundations for an understanding of the gaps in the existing law. So as not to disrupt the flow of argument, only salient details are given within the main text, but further details and a worked example are given in Appendix D. The individual percentages attributable to the three types of energy loss within buildings will not be discussed since, wherever there are three possible factors, the more one factor is minimised, the greater the contribution that must be made up from either or both of the other two types of energy loss.

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[103] Weiler (n.84) 328.

[104] Open University: Energy and Buildings: Free Course: https://www.open.edu/openlearn/nature-environment/energy-buildings/content-section-1 Accessed 24th March 2022.

2.5 Insulation or U-values and landlord and tenant law

The meaning of U-values

More details are given in Appendix D about U-values, but the *lower* the U-value, the better the insulation. An external wall with a U-value with a value of 1 means that, on a day where the temperature inside and outside a building differs by 1 degree, one watt of power will be lost per square meter of surface throughout the day. If the temperature inside and outside differs by 10 degrees, for example, where the outside temperature is 5°, but the inside is 15 °C, the same U-value means that 10 watts of power will be lost per square meter of surface. When the temperature difference is bigger, for example where the outside temperature is at freezing, i.e., zero, and the internal temperature is 20 degrees, then 20 watts of power will be lost for each square meter. U-values are measured in units of W/m^2K or $W/m^{2^\circ}C$, and although to work out U values accurately by measuring them, several days or even weeks are needed, most U-values in building projects are now standard ones obtained from printed tables.[105]

There are serious concerns about how accurate such U-values are when derived from tables, and therefore how they impact upon the accuracy of EPC grades.[106] Brøgger makes an obvious suggestion that U-values should be assessed with more consistency at the time of input,[107] though it will be apparent that to measure a material's U-value more accurately than the value found in a table either requires opening up the building to see what it is made of, or technological measuring, both of which are costly and time consuming. Even if measured on

[105] This is due to the fact that measurement requires thermopiles on both sides of the wall and ideally a constant temperature over that time; see J M A Marquez, M A M Bohorquez and, S G Melgar, 'A New Metre (sic) for Quick, Cheap and Reliable and Simple Thermal Transmittance (U-Value) Measurements in Buildings' Sensors (2017) 17, 2. This article describes how experiments are being conducted to make this process easier by using miniature electronics kits such as a Raspberry Pi; see Marquez 7.
[106] See section 2.3 above.
[107] Brøgger (n.49) 849.

site, accurate values require steady state of temperature over time,[108] which is not easy to find in the UK.

Landlord and tenant implications

Now that the calculation of U-values and heat loss through walls and surfaces is understood, the implications for landlord and tenant law are considered. Taking a very common situation in commercial leases concerning a multi-let building with an exterior wall comprising an inside and an outside layer, in most leases of part it is the landlord who will be responsible for repairing the exterior of the building and the structure whereas the tenant will be responsible for internal repairs. However, what is now evident from our understanding of U-values is that in most demised properties, the total U-value of a wall or floor and, therefore, to a significant extent, the overall EPC rating of the building, will depend upon both the landlord's part of the building and the tenant's part. Without undertaking any calculations, it will be appreciated that for the building to be well-insulated, either the landlord's part of the wall or the tenant's part of the wall must have a low U-value and if that is not the case, then much heat will be lost, and potentially the building will not attain its EPC pass grade. With leases of part of a building, therefore, matters are more complex when considering EEW, since the combined U-value of the walls and of the roof and floor usually depends upon both the landlord's and the tenant's area.[109]

The practical example may be used of a landlord who is considering replacing the exterior of the building with a sound, weatherproof material, such as cladding. The material can be replaced in a way which satisfies the landlord's obligations under the lease covenants to keep the building in good repair, but which is of a high U-value. Whilst the landlord will still have complied perfectly with their lease covenants, the EPC for the whole building will be poor. If, in

[108] A François *et al*, 'Estimation of the thermal resistance of a building wall with inverse techniques based on rapid active *in situ* measurements and white-box or ARX black-box models' (2020) 226 Energy and Buildings 110346.

[109] Note that with a lease of *whole*, the situation is usually much simpler since this is likely to be a full repairing lease where the tenant has sole responsibility for repairing the entire building.

a similar way, the tenant decides to replace the interior walls of their demised property with good quality material but which, again, is material with a high U-value and high heat transmittance, similarly the landlord's EPC could be adversely affected. In other words, for the purposes of energy efficiency, there is a symbiotic relationship between landlord and tenant. There are solutions; for example, the latest generation of aerogel renders could be used to greatly increase the insulative effect, although these are still being tested for their long-term durability.[110] The question still arises, though, as to who should pay for the works and materials.

Morally, although not legally, the question therefore arises as to whether it is the landlord or tenant who should carry out such works and thus enable the EPC assessment to pass. In the examples just given, both landlord and tenant would be entirely within their repairing obligations in most present commercial leases, and yet if an EPC fails owing to a high U-value, (or if the equivalent NABERS rating is low) then it is difficult to say which of the landlord or tenant is to blame. For this reason, within leases drafted within the last few years it is increasingly common for tenants to be forbidden from carrying out works that might impact upon the landlords' EPC or even from obtaining their own EPC.[111]

Whilst the point will not be explored in detail here, there is no statutory requirement for an independent energy assessor to be used, although the Royal Institute of Chartered Surveyors (RICS) Code does suggest landlords should act reasonably if they reserve the right to select the energy assessor.[112] Highmore advises that there are concerns about the efficacy of the Code in any event, since the first three versions have "remained a well-kept secret from most tenants".[113] It is unusual for equivalent lease covenants to be included asking *landlords* not to

[110] J Maia *et al*, 'Hygrothermal performance of a new thermal aerogel-based render under distinct conditions' (2021) 243 Energy and Buildings 111011.
[111] A typical clause is shown in Appendix F.
[112] Royal Institute of Chartered Surveyors: *Code for leasing business premises England and Wales* (1st ed 2020) para 11.2. Note that it is now a requirement for surveyors to have regard to this Code under their rules of professional conduct.
[113] S Highmore, 'Code of Practice for Leasing Business Premises 2020', (2020) 24(5) L&T Rev 169.

obtain an EPC, although that may simply be because in most multi-let buildings it is the landlord who will obtain the EPCs in any event. Freedman, Shapiro and Slater suggest that, whilst it is clear that there is a duty for landlords and tenants to co-operate in obtaining EPCs, it is less clear who should pay for them.[114]

Although this drafting is helpful in giving landlords peace of mind, it merely requires the tenant not to do anything which makes the EPC grade worse, but does not actually require the tenant or the landlord for that matter, to improve the energy efficiency of the building. Such a clause only imports a negative duty on the tenant to prevent the building's energy efficiency from becoming worse, but there is no positive duty to require either party to improve matters. Given the present suggestions for ensuring all buildings, so far as possible, have an EPC grade B by 2030, that is an increasingly concerning lacuna.

There is a further crucial problem, relating only to EPCs and not to the NABERS system. Suppose, for example, that a multi-let building is about to have an EPC assessment and it is known that the building is a borderline case. It will be assumed that all other parts of the building for space heating are already of relatively good energy efficiency, and cannot easily be improved, but the U-values for insulating walls are presently high. If the various tenants and the landlord have decided to refurbish the interior and exterior of the walls with materials which will (just) mean the EPC for the building receives a grade E, but at the last moment one party (either tenant or landlord) uses cheaper materials for their part, then the entire building will not receive a valid EPC. After 1st April 2023, it will become illegal to continue renting such a building and, in this scenario, it is very difficult to see who would be to blame, since there is no case or statute at present in the landlord and tenant law offering any remedy.

[114] P Freedman, E Shapiro and B Slater, *Service Charges: Law and Practice* (6th edn, Lexis Nexis 2018) 247.

2.6 Air-tightness and landlord and tenant law

Air-tightness

Even in an ideal world, no building should be entirely air-tight, since ventilation is needed to replace oxygen used up. Using simple terms, the more airtight a building is, the fewer air changes it will have each hour.[115] Air-tightness is a little easier to visualize than U-values, since keyholes, light switches, cables running through walls, and ventilation bricks all allow the wind to come in and the warm air to escape out. It may be less easy to actually *find* such holes, since in large buildings such airgaps can either be in the landlord's retained area or on the tenant's premises. Nor are methods of locating such gaps always scientific in practice, with one Irish study suggesting a smoke pencil being used for finding gaps[116] and even the esteemed *Passivhaus*' own air-tightness guidance suggesting use of a hair-drier in order to locate small holes.[117] In practice, a building's actual air-tightness is usually measured only on newbuilds, and is done by blocking up all doors and windows except for one door, then blowing air through that door with a large fan and measuring the pressure change. However, for refurbished buildings, just as with U-values, the actual building's air-tightness is not normally used in working out air-tightness values for an EPC, but instead a notional building is used, and the energy assessor checks during their site visit to see how many holes, cracks or ill-fitting windows there are. They input the number and type into their spreadsheet, and the software does the rest.

As a rough estimate, for most draught-free homes and small commercial buildings, there should be around 1 air-change per hour,[118] or a lower value of 0.6 in *Passivhaus*,[119] and to aid

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[115] Air changes are measured in one of two ways: either air changes per hour, denoted AC hr^{-1}, or confusingly, in metres cubed per metre squared per hour (m^3/m^2hr). This thesis uses only the first way.
[116] D Sinnott and M Dyer, 'Air-tightness field data for dwellings in Ireland', (2012) 51 Building and Environment 269.
[117] S Price, A Baines and P Jennings, *Demystifying air-tightness: Good Practice Guide*. (June 2020, The *Passivhaus* Trust).
[118] This would be denoted as 1 ACH^{-1}, or 1 ACH^{-1}_{50} if the test were carried out at 50 Pascals of pressure.
[119] Sinnott and Dyer (n.116) 269.

the reader in envisaging this a worked example of the energy required to re-heat the air lost is shown in Appendix D. Air infiltration[120] typically accounts for about 30% of heating costs in winter according to Prignon and Moeseke,[121] whose wide-ranging literature review also found that the main factors on the effectiveness of the energy efficiency of buildings are: i) the level of supervision of works and ii) the quality of workmanship.[122] Concerningly, they point out that there is no reliable method of assessing air-tightness,[123] thus raising more uncertainty as to how valuable this component of EPCs can actually be. Indeed, in a study a decade ago, Pan found that, quite apart from accuracy of air-tightness measuring, the air-tightness benchmarks used in the UK appeared much less stringent compared with the other EU countries.[124] More encouragingly, however, he also found that air-tightness had improved in the UK's buildings since 1994,[125] particularly after the 2006 Building Regulations[126] had been enacted.[127] Whilst his research provides some reassurance as to the effectiveness of the newer standards of air-tightness, it does not show greater reliability of the measuring of this component of EPCs. Ahern, Griffiths and O'Flaherty,[128] when considering Ireland's implementation[129] of the Energy Performance of Buildings Directive,[130] point out that, "As insulation levels improve, the significance of ventilation heat loss is greater." This is because, whether in a residential or commercial building, as U-values are lowered so that insulation is improved, the percentage of problems caused by the other two factors must increase. Ahern *et al* go so far as to suggest

[120] Air infiltration is closely related to, but not the same as air-tightness and will not be discussed further here.
[121] M Prignon and G van Moeseke, 'Factors influencing air-tightness and air-tightness predictive models: A literature review' (2017) 146 Energy and Buildings 87, 88.
[122] Ibid 92.
[123] Ibid 95.
[124] W Pan, 'Relationships between air-tightness and its influencing factors of post-2006 new-build dwellings in the UK' (2010) 45 Building and Environment 2387.
[125] Ibid 2398.
[126] The Buildings and Approved Inspectors (Amendment) Regulations 2006/652.
[127] Ibid.
[128] C Ahern, P Griffiths and M O'Flaherty, 'State of the Irish Housing Stock' Energy Policy 55 (2013) 139.
[129] DEAP is Ireland's implementation of the EPB Directive and stands for Dwelling Energy Assessment Procedure.
[130] See Council Directive 2002/91/EC On the Energy Performance of Buildings and Council Directive 2010/31/EU On the Energy Performance of Buildings (recast).

creating a specific air-tightness database for Ireland's housing stock,[131] though why such a specific database would add anything that a more accurate general EPC database could not do is not explained.

Landlord and tenant implications

When considering the interrelationship of air-tightness with commercial landlord and tenant law, it will be evident that any office, factory or shop with a poor air-tightness rating has more changes of air per hour, and therefore increased heating costs. Especially when retrofitting a multi-let building, it is not usually easy to quantify where these costs are attributable to, since the source of draughts could be either in the landlord's area of repair or in the tenants' area of repair (or of course in both). Where tenants are responsible for repairing the interior, but the landlord repairs the exterior, in the case of older buildings it is hard to ascertain where such air leaks are and so to identify who is responsible for the poor air-tightness value. Even if the main source of these draughts can be found and the "guilty" party located, at present no remedies are available. The drafting found in most existing leases, as was shown previously, ensures that although it is the landlord's responsibility to repair, there is no legal duty on him or her to do anything other than keep the roof, walls or other building parts in a watertight condition.

One possible solution may be found by considering a phrase commonly found in leases, that the property is to be kept not just in good repair, but in "good repair *and condition*". Whilst condition has been held to include more than just good repair, in *Post Office v Aquarius Properties Limited*[132] it was held that the covenantee was not actively required to ensure that damp did not ingress, even where the basement was sometimes ankle deep in water.[133] The facts in *Post Office* were unusual in that both parties acknowledged the occasional flooding of

[131] Ahern, Griffiths and O'Flaherty (n.128) 150.
[132] *Post Office v Aquarius Properties Limited* (1987) 54 P&CR 51.
[133] Ibid 71 per Gibson LJ.

the basement did not cause any damage to the building. Arguably, however, even if there were to be a covenant such that a building is to be kept in a good standard of repair expressly for water-tightness, this is the most likely of the three areas to enable tenants to claim against landlords for breach of covenant under the lease, since the lack of air-tightness lies closest to the landlord's duty of repair. It is easier to argue that landlords should be keeping their building in such a good standard of repair that no such holes or cracks should exist, since this relates (possibly) to the standard of repair. However, even in this latter instance, there is still no decision suggesting that a duty to keep a demised property in a state of good energy efficiency should be implied in the words "good condition". Overall, the standard of common law repair is not a high one, even for residential properties within the UK.[134] Even if a court did hold this to be the case in the future, that would still be a far cry from requiring a commercial building's standard of repair to match a particular EPC rating so as to be suitable for letting out.[135]

Again, using the fictious example,[136] focussing on the right-hand property for the moment, if tenants are responsible for repairing the roof, if the upstairs tenant keeps it in a weathertight condition, but not in an airtight condition, then draughts from his or her part will ensure the entire building has a poor air-tightness value. That is their own problem if the tenant has their own EPC, but if this whole building is centrally conditioned, with one EPC (ignoring the top flat here) it will impact other tenants and the landlord. Accordingly, unless the lease expressly requires a landlord (or occasionally tenant) to keep their part of the building not only in good repair but also in an airtight condition, then tenants in a draughty building presently have no remedy. Like the symbiotic relationship found earlier between landlord and tenant for U-values, a similar relationship has now been established for air-tightness. In both cases, in the absence of express drafting, there is no effective remedy for tenants, and so without intervention by

[134] Considered in more detail in Chapter Three.
[135] See Chapter Three and particularly 3.2 for detailed discussion of the problems associated with this.
[136] Chapter One paragraph 1.8.

Parliament, draughts seem likely to remain not only a source of irritation for commercial tenants, but also a source of expense and a factor likely to impair a building's EPC rating for both landlords and tenants.

2.7 Thermal bridges and landlord and tenant law

Thermal bridges

The third and final area of building heat loss to be considered is thermal bridges, or psi values (denoted ψ) which are measured in units of W/mK or W/m°C. From looking at these units, it may be seen that ψ values measure the amount of power loss *per meter* i.e., a thermal bridge is measured using a *linear* unit.[137] Essentially, this is because psi values are used to measure the joins between two surfaces of the same material or between two different materials, such as where a floor meets a wall or a wall meets a window lintel or another wall.[138] In simple terms, therefore, the longer the length of the physical join and the higher the ψ value, the greater the quantity of heat that will be lost through that join or girder.[139] An intuitive way of understanding thermal bridges is to realise that heat flow is directional, something that is evident to anyone within a warm building who opens an outside door on a cold day. In order to move from the hottest area to the coldest, heat will try to escape through whatever weakness it can find in the building envelope, and indeed Ascione describes thermal bridges as weaknesses in the thermal structure.[140] No matter how low the U-values or the air-tightness values are for the rest of the building, much heat can still be lost through thermal bridges through the concrete or steel parts of the building construction, since these are effectively an energy "discontinuity… of the building

[137] Something which is implied from its full name of *linear* thermal transmittance.
[138] Note that the equivalent measurements for U values are given in m^2 which is a unit of area.
[139] There are some exceptions to this such as regularly repeating thermal bridges within other materials due to metal studs which are not considered here as they are normally already accounted for within the material's U-value.
[140] F Ascione *et al*, 'Different methods for the modelling of thermal bridges into energy simulation programs: Comparisons of accuracy for flat heterogenous roofs in Italian climates' (2012) 97 Applied Energy 405.

envelope",[141] suggesting that they typically account for 20% of heat loss, and even up to half (48%) of heat losses in some cases.[142] Once again, only brief details are provided in this main text, but in practice thermal bridges can cause significant heat loss. As Ilomets notes, where retrofitting of existing buildings has already taken place, the role of thermal bridges becomes of more significance, since heat loss through thermal bridges then constitutes a much greater percentage of the overall heat loss and "thus, the relative significance of thermal bridges in the transmission heat loss increases with an improved level of insulation".[143] In other words, as the grading of a particular property for energy efficiency improves, due to both effective insulation and due to the improved air-tightness of a building, then thermal bridges become of greater importance in attaining an even higher grading. The significance of this becomes apparent when landlords or tenants are aiming for a high energy rating in an EPC (or the equivalent 5 or 6 stars in the NABERS system). Within such a building, an infra-red camera can be used to show the colder areas of a flat in blue or purple, demonstrating that the temperature is far lower in corners where the lintels are, than in any other area of the room. Figure 3 below demonstrates this, since the pictures taken externally show heat loss from the outside of the same building which are those areas leaking heat through thermal bridges of concrete girders. The amount of heat being lost is shown clearly and although this is taken from a study of a residential block of flats, it clearly displays the fact that, in practice, there is a strong connection between heat loss and the extent of the tenant's demised property.

Ilomets states that "Most of the thermal bridges can be minimised by applying additional external thermal insulation and paying special attention to the external wall/window …

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[141] Ibid.

[142] J Kosny and E Kossecka, 'Multi-dimensional heat transfer through complex buildings in hourly energy simulation programs' (2002) 34 Energy Build. 445-454 (as cited in F Ascione *et al* (n.140) 406).

[143] S Ilomets *et al*, 'Impact of linear thermal bridges on thermal transmittance of renovated apartment buildings' (2017) 23(1) Journal of Civil Engineering and Management 96, 101. Figure 3 sourced from Ilomets ibid.

junctions";[144] To put this more simply, good workmanship reaps its own rewards. He concludes that,

> Since the relevant impact of thermal bridges enlarges with insulation thickness, focus during renovation should be on the minimisation of thermal bridges rather than on using thicker insulation to meet the target.[145]

Ilomets' findings were that in poorly retrofitted projects, even after energy efficiency work is carried out, around 35% of remaining heat loss is caused by thermal bridges,[146] which according to Ilomets and his team matches previous research carried out.[147] Thermal bridges are undesirable in other ways too, as since the areas around such bridges attract condensation, dampness and mould problems may arise.[148]

[144] Ibid 102.
[145] Ibid 103
[146] Ibid 101.
[147] Ibid 102. For example, Ilomets *et al* cite Theodosiou and Papadopoulos (2008), Ernhorn *et al* (2010) and Berggren and Wall (2013) who have found similar percentages of heat loss due to thermal bridges.
[148] D Pickles and I McCaig, Historic England, 'Energy Efficiency and Historic Buildings, Application of Part L of the Building Regulations to Historic and Traditionally Constructed Buildings' (Historic England 2017), 7.

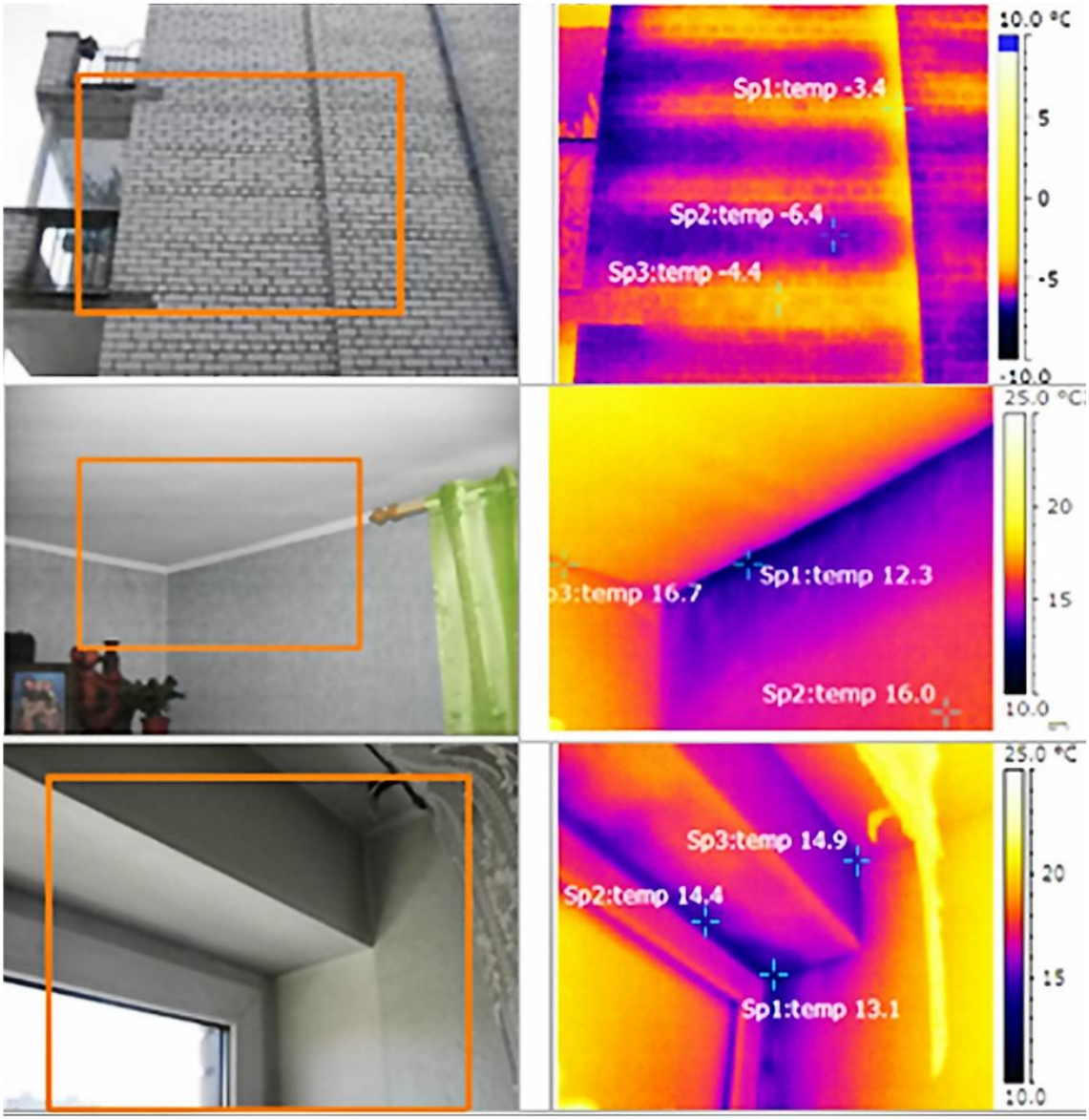

Figure 3 Thermal bridges and heat loss using infrared camera

Landlord and tenant implications

In keeping with the visual methodological approach, the Zero Carbon Hub provide a helpful visual aid to seeing the impact of thermal bridges which is shown below in Figure 4.[149] Although this is not peer-reviewed, it is endorsed by the National House-Building Council amongst others.

Figure 4 The impact of thermal bridges represented by different sizes of doors

More pertinently for the purpose of this thesis, thermal bridges often lie at the heart of the division between landlord and tenant, since, in multi-let buildings, such bridges are often found where the landlord and tenant's respective parts of the demise begin or end. Ilomets' research focused on residential flats in Eastern Europe, but many of the UK's commercial buildings were constructed in a similar process using steel and concrete girders in the 1960s. Accordingly, any UK building refurbishing programme which provides good insulation and makes good air-

[149] Figure 4 taken from L Whale and the Zero Carbon Hub, *Thermal Bridging Guide* (London) 38. https://www.labc.co.uk/sites/default/files/resource_files/zch-thermalbridgingguide-screen.pdf Accessed 13th January 2023 from the Local Authority Building Control website.

tightness improvements, but which leaves thermal bridges unaltered will do only so much to either improve EPC ratings or to reduce CO_2 emissions. Specifically, considering the converted chapel model,[150] if the first floor has been reinforced with a dozen steel girders, one would expect much heat to be lost from these areas via thermal bridges, giving rise to the question as to who should pay for any heat-reducing measures in this scenario. Such a question is one which, once again, the present commercial landlord and tenant law within England and Wales does not address at all. A rare example of a thermal bridge being mentioned in a repair case is *Quick v Taff Ely BC*,[151] where the principle of thermal bridging was discussed, but the court held that the landlord was not liable to insulate the offending window lintels.[152]

2.8 The interaction between U-values, air-tightness and thermal bridges

The preceding three principles for different types of heat loss (i.e., insulation or U-values, air-tightness and thermal bridges) will in practice interact together in any building, with the percentage of heat loss attributable to each of the three sources varying from building to building. As has been stated, since the aim is to consider ways of reducing overall carbon emissions substantially, it matters little how much heat is lost from any of these individual sources, if the overall carbon figure is reduced.

There are two other figures which can be useful in understanding the wider picture and which are mentioned here. The first is the overall heat loss coefficient or heat transfer coefficient, which is simply an average of the total heat loss per unit area of walls, floors etc. This quantity is not focussed upon here, though can be useful as a rough gauge of total heat loss. The second measurement is a ratio of the first, which is something known as the "alpha value" and which is only slowly coming to prominence.[153] The alpha value is broadly the percentage of

[150] Chapter One para 1.8.
[151] *Quick v Taff Ely Borough Council* [1986] QB 809.
[152] Per Lawton LJ at 822.
[153] See A Williams' article, 'Getting a grip on alpha-values' Architects' Journal 29th August 2002, which advises readers not to worry if they had never heard of alpha values, since neither had anyone else. Alpha

heat lost through the last of the three main ways of heat loss, that is, thermal bridges. The figures for alpha values are usually high, since the SBEM[154] software will often allocate a default value of 10%, and this author has seen values of between 10% and 33% utilised for alpha values in BRUKL[155] output reports, which again roughly matches the values shown by Ilomets for thermal bridges. Because the UK's commercial building stock is heterogeneous,[156] it is very hard to pin down what percentage of energy loss comes firstly from walls and U-values, secondly from air-tightness, or thirdly from psi values or thermal bridges. This author has found no research directly upon the question of how much is lost from each of the three ways in the context of landlord and tenant law. Perhaps this is because the legal practice sector is concerned, understandably, with the impact of higher EPC gradings upon their clients and the immediate implications, rather than with where heat is lost from. It is also possible that the active measures have been focussed on, and that the academic sector has generally focussed mainly upon the macro-implications of energy efficiency, either on the economic health of the country, or upon the many emerging technologies which can be used to improve building energy efficiency.

Within a multi-let building, and particularly within older buildings which are about to be refurbished, whilst the active building measures (that is, HVAC systems) can be relatively easily improved, the more bespoke passive building measures needed to attain the higher energy grades typically need extensive refurbishment work and time, money, and careful thought by architects and engineers. All this comes at a time when renewal leases, pre-pandemic, were typically for a short length of under 7 years, compared to the much longer institutional lease 25

values are only mentioned occasionally in energy efficiency articles, so it is likely this ignorance still, largely, remains.

[154] Simplified Building Energy Model, used for smaller or simpler commercial EPCs.

[155] Building Regulations UK part L reports. These are commissioned for new buildings and extensions and contain an alpha value.

[156] S Ratcliffe and VERCO consultancy, DFP Base Building Rating Tool Recommendations Report (Better Building Partnership 2020) 19.

years some time ago.[157] Even sector-specific guidance does not offer any answers for passive measures, such as the RICS Service Charge Code which only gives the example of a boiler needing to be replaced under a modern short lease, where the tenant should not be asked to pay since they will have only a transitory interest.[158] There is no equivalent guidance for passive works, but the principle of tenants not wishing to pay for capital improvements can be applied just as easily to the passive measures discussed in this Chapter.

Returning to the fictitious example,[159] where the building presently requires just one EPC, with one HVAC system, then poor insulation in any one crucial part of the building may well impact upon the EPC grading for the relevant part that the tenant is intending to sublet. Similarly, the poor state of air-tightness of just one building part, or a large psi-value for, say, steel or concrete girders in another building part could well impact the overall EPC grade if the entire building is heated or conditioned by one system. For any of the four tenancies, if, added to the difficulties at renewal, the tenant and subtenant both now need to consider future EPC gradings or NABERS star ratings and the question of who should pay for any energy improvement works to be carried out, then the matter of renewing a lease becomes even more complex. Perhaps if it is assumed they are all roughly equal, then whilst it is possible to improve an EPC grade in a building which requires only a grade E by simply obtaining a good HVAC system, this will be much less easy to do when a grade B is required, as the Government's proposals presently suggest,[160] or the equivalent of five or six stars under NABERS.

None of these matters have yet been considered strategically within the context of commercial landlord and tenant law. Particularly where business tenancies are to be renewed under the 1954 Act, or terminated and compensation paid under the 1927 Act, there is a sense

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[157] The Property Industry Alliance, *Property Data Report 2017* (British Property Federation 2017) 11.
[158] Royal Institute for Chartered Surveyors*, Service Charges in Commercial Property* (2018, 1st edition) 30.
[159] Chapter One (Section 1.8).
[160] The Minimum Energy Performance of Buildings (No 2) HC Bill (2021-2022) 150. Clause 7 refers to a B grade for non-domestic buildings.

of an unwitting game of chance being played by landlords and tenants, who are not yet aware of the adverse consequences awaiting the commercial rented sector in a few years' time as minimum EPC grades increase. If the Government's plans to increase EPC grades to B within ten years are followed through, then although *active* energy saving measures such as HVAC upgrades could be implemented with less disruption to business tenants, the significant amount of work required for the equivalent *passive* measures on older buildings will entail much more disruption. Not only will landlords either need to borrow heavily, or otherwise attempt to recover large sums of capital expenditure for EEW across the building from their tenants,[161] but also the substantial refurbishment work could be disruptive to businesses. Likewise, within the NABERS system, whilst there is no pass or fail grade, there is still a publicly disclosed star rating system which building owners will not wish to be decreased for reputational reasons. Because as has been shown within this Chapter, most old UK buildings will require significant refurbishment to attain a good energy grade whichever system is used, the expense and the time involved in refitting could be substantial. There is no law presently, or even a code of practice, which stipulates who should pay for this, and as commented in para 1.6 above, not only do the MEES Regulations not allocate responsibility for payment, but they expressly provide that no provision of any tenancy in a poor building is voided.[162]

The example picture shown before can now be re-drawn, with some suggested passive improvements. Those improvements are the walls and floor are to be insulated, the building is to be made more air-tight to reduce heat loss in this manner, and the girders will be capped to minimise heat loss through thermal bridges. Additionally, perhaps Phase Change Materials (PCMs) are to be installed and the attic area made into more usable spaces for residential use.[163] These changes are shown in Figure 5 below, but particularly if these are expensive, it will be

[161] Alternatively, this could mean tenants who have rented the whole of a building seeking to recover costs from the landlord on quitting.
[162] The MEES Regulations (n.33) Regulation 30.
[163] See Appendix D.

appreciated that all tenants will be renewing their tenancies in such a way that their renewal leases will often be different to those which they had prior to the renewals, and the proposed works in these scenarios will sometimes be referenced within the next three chapters.[164]

Note the insulation between the ground and first floor and the lack of cracks in the walls/roof representing airtightness, which show the heat loss is now much less.

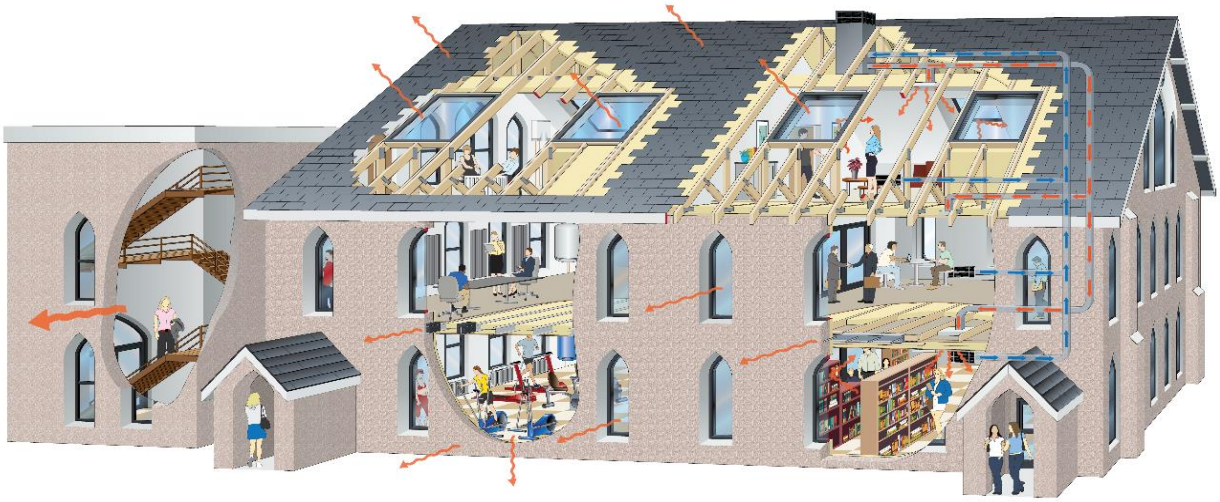

Figure 5 The imaginary building revisited with energy efficiency works carried out.

[164] This picture will be referenced occasionally in later chapters.

A similar “before and after” shot showing the capping of the steel girders between the floors is shown in Figure 6 below.

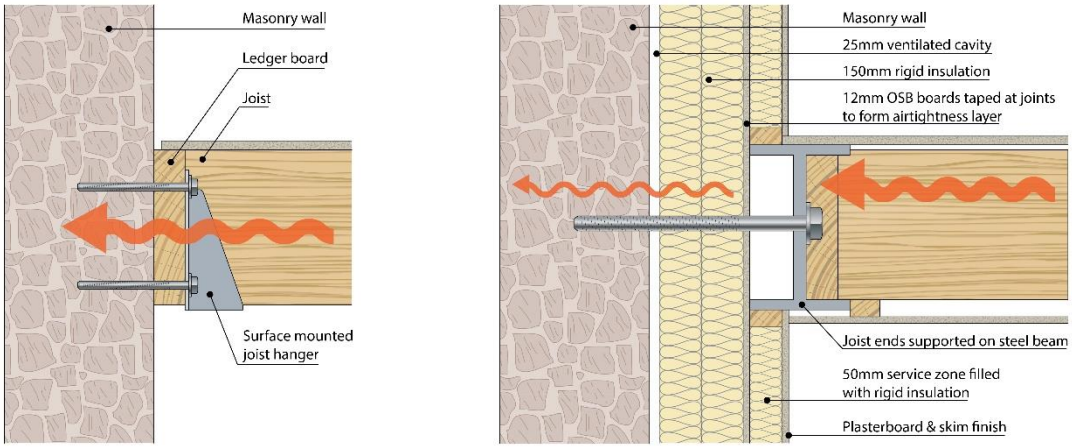

Figure 6 A close up showing the type of works undertaken to reduce thermal bridges.

Figures 5 and 6 are a simple visual representation but demonstrate the assumption that this entire building has undergone “deep” and effective passive energy refurbishment, at significant cost. The question of who should pay for these works and the impact of such works on landlord and tenant law will be considered in the remainder of this thesis.

2.9 Conclusions

This has been a complex chapter, which seeks to understand and appraise EPCs and NABERS, then to demonstrate that energy efficiency refurbishments are worthwhile in commercial property, and finally to outline the three main areas of heat loss in passive buildings. As to the first point, it has been shown that EPCs are roughly reliable, but there are serious concerns as to their viability, particularly for the most crucial pass/fail grades. As to the second, whilst figures are very hard to quantify, most deep refurbishments do produce significant reduction in energy consumed subsequently so that it is usually better to do such refitting to existing buildings rather than demolish and rebuild, and any payback period is typically over a few years. Concerning the third point, all three of the types of heat loss studied are linked to the landlord and tenant relationship. Thus, when considering suitable passive measures to prevent energy

loss, the issue is not whether any single component in a carbon reduction scheme works well, but whether the measures *in totality* can reduce heat loss sufficiently and, therefore, reduce emissions. One cannot simply consider the tenant's part of the building when giving an EPC grade, but the entire building must be viewed as a whole. Accordingly, to define what should be the landlord's responsibility or what should be the tenant's responsibility to attain a particular EPC grade would give only scant benefit in any accurate energy assessment system.

Those aspects of building energy efficiency which are passive, and which entail installing new insulating materials, making air-tightness improvements, or effecting reduction in linear thermal bridges, are not presently considered at all by the UK's existing commercial landlord and tenant law. Unless a way can be found to vary the laws of physics, the laws of England and Wales will need to be varied to accommodate energy efficiency retrofitting projects. Clearly, if choosing to reduce only any two of the three areas of heat loss under consideration in this Chapter, then unless the third factor is of very small importance indeed, energy grades A or B for EPCs[165] are not going to be attainable by most building refurbishment.

As stated in Chapter One, since an overall figure of the energy intensity, i.e., the financial and environmental cost in kwh/m^2 or kg CO_2/m^2 per year, is now available for most commercial properties, it is relatively easy for landlords and tenants to see the amount of carbon that is likely to be used each year in their renewal lease. There is, therefore, no reason in principle why environmental concerns generally – and CO_2 reduction specifically – should not now begin to form an express part of negotiations for commercial lease renewal under Part II, and for the compensation process under Part I on lease termination. Such a change could even benefit the UK's economy and be beneficial for society, as van der Ree argues happened in Germany and

[165] Or their equivalent in NABERS.

France where a more responsive training system has facilitated quicker greening of the building sector.[166]

Overall, however, Chapter Two has shown good news. Unlike Chapter One, where it will be recalled that many carbon reduction schemes had been tried with low improvement, within Chapter Two it has been found, firstly, that where deep refits are carried out they are worthwhile both environmentally and economically; and secondly, the UK's EPC system is reliable (though only just). The difficulty in obtaining trustworthy figures for the percentage of heat loss through each of the ways makes it difficult to be sure of the payback period and, therefore, the length of tenancy needed to ensure a landlord's investment is successful. Given this overall good news and given that most existing buildings would benefit from both passive and active refurbishment, the present landlord and tenant law needs to be scrutinised carefully to see how energy efficiency might be promoted within future lease renewal procedures and the law relating to dilapidations. It is to those matters that we turn in the remaining chapters.

[166] K van der Ree, *The ILO@100: Tackling today's jobs and tomorrow's challenges*, in C Gironde and G Carbonnier (eds) 'Promoting Green Jobs: Decent Work in the Transition to Low-carbon Green Economies' (Brill, 2009) 259.

3 CHAPTER THREE: Implied Statutory Covenants to carry out Energy Efficiency Works

3.1 Introduction

Before looking at issues of compensation and how the 1954 Act might be amended in Chapters Four and Five of this thesis, a crucial question needs to be resolved which is: is there a case for mandating one party to undertake energy efficiency works (EEW) in *every* business lease? If a covenant were to be implied into every commercial lease forcing one party to carry out EEW, there would be little use for any discussion of the renewal of leases under Part II, and much less need for any discussion of compensation for EEW carried out. Accordingly, this Chapter assesses whether such an implied covenant would be desirable or possible, alongside the consequences if there is a breach of such a covenant, and how compliance might be enforced. As part of this question, the issue of whether it is possible for landlord and tenant to agree the apportionment of liability between themselves will be considered.

Throughout, this Chapter continues to focus upon the passive measures outlined in Chapter Two, where although the works to be carried out are not necessarily structural in nature, they would normally cause some disruption to the tenant(s). It may be helpful to consider the picture shown previously,[1] where it will be recollected that the right-hand building was a lease of whole (minus the flat at the top) but the left-hand building was a lease of part to more than one tenant. It will be assumed that significant passive works will be undertaken to instal insulation, PCMs, solar photovoltaic panels and airtightness measures and thermal bridge reduction across both buildings, as well as to upgrade active measures.

The problem is two-fold. Firstly, not only are there very few terms that statute has fully implied into business leases, since the approach taken by Parliament in matters such as

[1] Chapter Two (para 2.8).

alienation covenants has been to override the express wording of the lease to protect the tenant.[2] Secondly, the question of energy improvement covenants is closely linked to existing repair covenants, and there are no such covenants that are presently implied into business leases. Nevertheless, because legislators have, on several occasions, tried to amend the existing landlord and tenant law, including consideration of a codification of landlord and tenant law,[3] there is much material which relates to the imposition of covenants into leases more generally, and to repairing covenants specifically. It is this material that will be the basis for proceeding by analogy to try to predict what the problems and benefits might be, if a covenant to carry out EEW were ever to be implied by statute into leases.[4]

3.2 Covenant forcing one party to carry out energy efficiency works

The question can be restated: is there a case for mandating one party (the landlord, say) to carry out EEW, by way of an implied term in every lease? In other words, should Parliament legislate for one party to carry out EEW? This question will be of great practical importance for both economic and environmental reasons if, as suggested by the previous chapters, rectification of the CO_2 crisis is very unlikely to occur through market forces alone.[5] In the residential context, whilst implying such covenants into leases of homes has previously been suggested by writers in other jurisdictions,[6] it is only recently that such changes have reached the statute book in New Zealand,[7] with impassioned pleas being required in the New Zealand

[2] P Dollar, 'Practitioner page: implied lease terms' (2019) L&T Rev 23(3) 115, 117-118. Likewise, Dollar gives examples of where such covenants are implied by the common law, not discussed further here.
[3] See, for example, Law Commission, *Codification of the Law of Landlord and Tenant: Forfeiture of tenancies* (Law Com No 142, 1985) which by its very title suggests that law codification was being actively considered.
[4] See para 1.3 above for discussion of analogical methodology.
[5] See section 1.4 above.
[6] For example, Bradbrook's ideas for mandatory home insulation in rented properties as cited in Barton in Chapter One (1.1).
[7] The New Zealand Healthy Homes Guarantee Act (2017) No 46 which required all residential landlords to meet certain insulation standards.

parliament to pass the legislation.[8] The nearest equivalent that can be found in England and Wales are the regulations requiring residential landlords to obtain an EPC[9] combined with a prohibition on letting residential properties which do not have the required EPC grade or exemption,[10] but this still falls far short of a mandatory covenant for landlords to carry out EEW in residential tenancies.

The question of whether, and to what extent, covenants of any sort should be implied into leases is one that has long vexed legal minds. The comments of Sir Maxwell Fyfe in early 1954 upon the second reading of the Bill that was to become the Landlord and Tenant Act 1954 are worth quoting as they illustrate the difficulty that legislators have had across the years on this issue:

> I should like to mention a group of the Leasehold Committee's recommendations, all dealing with covenants in leases. We have not accepted some but we have accepted others … in the White Paper we said that the Government had accepted this proposal in principle, but with reservations. We have … decided not to include it in the present Bill.[11]

Leaving aside Fyfe's reservations about implying general covenants into leases, the question being considered here is whether landlords should be mandated to carry out *specific* carbon-reduction works by way of an implied term in every lease. The idea of imposing covenants in a business lease is not novel. The Law Commission has previously discussed the possibility, though it also suggested introducing some restraints if such a power were to be used.[12] It found that,

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[8] E Clerk, K Eaton and J Foster, 'Mandatory Minimum Energy Efficiency Standards for the Private Rental Sector: Lessons from New Zealand and the United Kingdom (England and Wales)' Northern Alliance for Greenhouse Action, Brunswick (2018) 7. https://www.naga.org.au/uploads/9/0/5/3/9053945/mandatory_minimum_energy_efficiency_standards_for_the_private_rented_sector.pdf Accessed 1st January 2022.

[9] The Energy Efficiency (Private Rented Property) (England and Wales) Regulations 2015/962.

[10] Prohibited by Reg 23 of the Energy Efficiency Regulations ibid. Note that the Regulations expressly state the mere fact that property is sub-standard for energy efficiency purposes shall not invalidate any part of the tenancy agreement; see Regulation 26.

[11] HC Deb 27 January 1954, vol 522, col 1769.

[12] Law Commission, *Provisional Proposals relating to termination of tenancies* (Law Com No 16, 1968) para 12.05(5) ("Termination of tenancies").

"a serious question arises … namely, whether the court should have a … power to impose terms on the parties even where the parties do not agree to them".[13] The Commission commented that such powers were not without precedent, citing not only the then housing legislation, but also Part II of the 1954 Landlord and Tenant Act.[14] Crucially, in the case of the latter legislation the tenant's rights to resile from any new tenancy granted[15] was felt to be a relevant protection by the Commission, who finished their deliberations by saying "These examples [of housing and business tenancies] operate only in precisely defined situations, in which the quality of the imposed terms is reasonably predictable in any given case".[16] In other words, the Commission did not feel that giving courts the power to impose terms into leases in more extreme situations was appropriate. It is submitted that, in the context of implying energy efficiency covenants into leases, the same logic should apply since, in the case of expensive passive EEW, there will be little "predictability" for unusual, or non-homogeneous, buildings. Further weight was given to this argument by a later report, where the Commission's view was again that implying absolute covenants should be avoided since they might operate to "oust the jurisdiction" of the court.[17]

For either residential or business tenancies, and whether the ability to contract out from such implied covenants were to be allowed, if such a law were ever to be enacted it would be a strong departure from the existing principle in UK law that both parties to a lease enjoy freedom of contract to agree what they please. However, it is submitted that such implied covenants would not, by themselves, come much closer to making any lease "fair" in carbon terms between landlord and tenant, since it is not possible to simply imply a term into all leases that landlords should carry out environmental works to make the property fully efficient.[18] Although detailed

[13] Ibid.
[14] Ibid.
[15] Such a power to decline the new tenancy is enjoyed by the tenant under s.36(2) of the Landlord and Tenant Act 1954.
[16] Law Commission, *Provisional Proposals relating to termination of tenancies* (n.12) ibid.
[17] Law Commission, *Provisional proposals relating to covenants restricting disposition, parting with possession, change of user and alteration* (Law Com No 025, 1970) para 1(6)(ii) p19.
[18] See para 3.3 below 'Conceptual difficulties with implied covenants for EEW'.

reasons for this lack of fairness are given below, the simplest reason is itself the wide variety of leased properties and length of terms. As the Jenkins Report[19] commented, because English landlord and tenant law commonly spans leases from a few months' duration to nearly 1000 years, and because it is used for a wide variety of premises from residential flats to business premises and agricultural tenancies, it is very difficult for one, universal provision to be enacted which will appropriately deal with every situation:

> It would be difficult to frame legislation which satisfactorily specified the instance in which an absolute covenant was to be effective (for example, by reference to the type of tenancy or length of term or the relevant factors to be considered).[20]

However, although it may be difficult, it is suggested that it is not impossible to devise implied covenants for carbon reduction into business leases which impose fairer terms upon both parties to a new lease. It is submitted that, in the case of shorter business leases, where typically the tenant is taking a lease of the interior only of the premises, implied energy refurbishment conditions could, and indeed should, be considered in every lease, for which the landlord (only) must assume responsibility.[21]

Other ways of implying a covenant for energy efficiency works

For reasons of simplicity, the approach taken in this work focuses mainly on the question of implying such covenants absolutely. However, it will be appreciated that most of the approaches previously used by Parliament to imply lease covenants did not take such a drastic approach, but instead statute was used merely to modify existing covenants in the lease. By way of example, it will be recalled that the Landlord and Tenant Act 1927 modifies covenants regarding alienation, so that where consent is "qualified" the law imports a proviso that

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[19] Leasehold Committee, *Final Report of the Leasehold Committee* (Cmd.7982, 1950) para 21.
[20] Law Commission, *Covenants restricting disposition* (n.17) para 1(7)(ii) p25-27.
[21] That is the approach which will be taken in para 3.4, where the possibility of an implied covenant to carry out EEW is considered in the context of different lengths of leases.

landlords can only withhold consent for assignment or subletting where it is reasonable for them to do so.[22] It was in this type of situation, after deliberations in 1970, that the Law Commission considered intervening further in the landlord and tenant relationship in order to ensure tenants are treated more fairly.[23] In the end, there was no such legislative intervention, but the Commission's thinking is quoted since it is of relevance to the question under consideration here:

> The Working Party's view is that freedom of contract between landlord and tenant should not be restricted unless good reason can be shown … They consider that, in each of the covenants which are the subject of this paper, there are instances where the use of an absolute prohibition may be justified.[24]

Their wording elucidated the thinking process, that is "unless good reason can be shown".[25] From these words, it may be inferred that where there is good reason, relationships between landlord and tenant ought to be amended by legislation. The Commission's comments were in the context of considering clauses governing use, or alienation and improvements to the premises, which are all matters that are quite different to the question under consideration of whether an energy refurbishment clause ought to be implied. Nevertheless, the issues being discussed by the Law Commission do have similarity to the question presently under discussion. The counter-arguments considered later in that same report,[26] whilst citing the undesirability of absolute covenants generally, did not prevent such covenants from being lawful in leases. That report referred to the "fundamental conflict between the proposals of the Working Party and the recommendations of the Jenkins Committee" on whether to allow absolute covenants at all.[27] Whilst the point was considered only in the context of alienation covenants, improvements

[22] S.19(1)(a) of the Landlord and Tenant Act 1927.
[23] The Law Commission, *Covenants restricting dispositions* (n.17) para 1(1) 13.
[24] Ibid.
[25] Ibid.
[26] Ibid 21.
[27] Ibid 27.

and user clauses, and primarily in a restrictive context (i.e., enabling landlords to prohibit any changes), the comments of the Law Commission about the difficulty in applying absolute covenants to the wide variety of leases (business or residential) and lengths covering different economic circumstances[28] apply also to the positive covenants necessary for EEW to be carried out.[29] Detailed reasons are given below, but what may be said with some certainty is that when considering an old building such as a mill, factory, or any other structure requiring substantial refitting works, if it has been difficult for legislative minds and lawyers to find a "fair" solution to imply restrictive covenants (i.e. those only aimed at preventing a particular behaviour in leases generally), then how much more difficult will it be if positive covenants were to be mandated in future, requiring one party to, for example, carry out significant insulation, air-tightness or thermal bridge reducing works. This practical difficulty should be borne in mind during the next subsection which considers the conceptual difficulties in more detail.

3.3 Conceptual difficulties with implied covenants for energy efficiency works

There is still no general duty for landlords to carry out repairs to demised premises, and apart from the specific statutory rules enacted by the Landlord and Tenant Act 1985[30] which apply only to residential dwellings of seven years or less, there has never been any move to legislate for a general lease code since the provisions of the ill-fated Jenkins Committee of 1950 in this regard were never adopted.[31] Even if Parliament's mood changed and implied covenants were considered desirable in future for commercial leases, there are a number of conceptual hurdles with this approach which are considered below. As stated above, all these comments

[28] Ibid 29.
[29] Notably, the wide range of leases that legislation would be required to cover was a matter mentioned in the Jenkins Committee's final report as well; (n.19).
[30] Ss.11-14 of the Landlord and Tenant Act 1985 broadly require landlords to repair the structure, heating and water systems of all residential dwellings that are demised for 7 years or less.
[31] Law Commission, *Landlord and tenant: responsibility for state and condition of property* (Law Com No 123, 1992) para 1.3.

are made solely in the context of legislative intervention to imply energy covenants into leases, not the court's ability to imply terms into a specific lease.[32]

Firstly, any such implied term would severely curtail freedom of contract between landlords and tenants, and this is in an area of the law where, as recognised by the courts, both parties are currently able to strike what deal they wish.[33] Part II of the 1954 Act was not designed to stymie freedom between the parties upon renewal of the lease, but on the contrary to give tenants the *prima facie* right to renew their lease at a reasonable rent.[34] With an implied term as to energy efficiency being considered here not just on renewal, but from the outset of any business lease, the ability of both parties to contract freely would be greatly reduced by any term in every lease requiring one or other party to carry out such environmental works.[35]

Secondly, different business tenants have very different circumstances and requirements. Accordingly, it is hard to be prescriptive about what covenants ought to be implied into every lease. This is so particularly in lettings of part, where the measures required for, say, a large heat pump installation to heat a whole building may require significant installations of works within the building itself and even underground. Such an installation could only be carried out effectively by one, central person, that is, the landlord or its agents, since neither the installation nor the repair of this apparatus could be co-ordinated easily by any one tenant. Accordingly, in all such cases, one could successfully argue that the landlord should have the duty to carry out EEW imposed upon them.[36] By contrast, particularly in manufacturing, there are cases where a

[32] The power to imply terms under business necessity remains one courts will use, albeit sparingly. See J Sidoli, 'Implying a term to give commercial sense to a lease: *J N Hipwell and Son v Szurek* [2018] EWCA Civ 674' (2018) 22(6) L&T Review 212.
[33] M Haley, *Renewal of Business Tenancies* (2nd edn, Law Society Publishing 2013) 246.
[34] M Haley, 'Compensation for business tenants: mischief and malady' (2020) 79(3) CLJ 490, 511.
[35] The Law Commission did not fully agree that there is freedom of contract, citing Pollock's comments that 'the law of landlord and tenant has never been a law of free contract' (Pollock, *The Land Laws*, (1883) 143) cited in Law Commission, *State of property* (n.31) para 4.8.
[36] This raises questions in turn about whether the landlord ought to be able to obtain a release from its tenants on selling their reversion, under s.8 of the Landlord and Tenant Act 1995. The matter will not be considered here for space reasons, but it will be appreciated that particularly for active EEW relating to centrally installed HVAC systems, where the landlord has commissioned expensive works across the whole

very specific purpose is intended for the building, for example where the premises are to be used for the manufacture of microchips or biological purposes requiring high standards of air purity. In these latter cases, then assuming that there is an interrelationship between the HVAC system and such required standards of purity, to impose covenants on landlords requiring them to install suitable specialised air conditioning system, would seem unfair to them, since only their tenant will be using such equipment and accordingly only their tenant would know the standard of installation that will be required.[37]

Thirdly, the costs of energy upgrading requirements are, at present, not easily quantifiable. It is true that the recommendation report accompanying EPCs do have suggested works, with estimated costs given, but at an EU level, these have been found to be of limited value.[38] For a tenant to *repair* a single, specific heating system may be expensive, but it will usually be a quantifiable expense, as the types of heating systems on the market are already known about and quotations can be obtained in a short period of time. However, a more general lease condition requiring tenants to upgrade their entire premises to receive an energy certificate of grade A or B at the end of their ten-year renewal lease would be an extremely open-ended condition; a point which Highmore makes in the context of longer residential leases.[39] Some of the newer energy efficiency technologies now becoming available are outlined in Appendix D. Whilst it is known that such matters work scientifically in laboratories, the expense of some schemes such as Vacuum Insulated Panels (VIPs) are, presently, very high.[40] In addition to the unknown cost of such EEW, the concerns discussed in Chapter Two about the reliability of energy

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building, most tenants would not be happy to release the landlord without knowing that any guarantees or warranties for the system were dealt with as part of the reversion transfer.

[37] Alternatively in this scenario, the landlord and tenant could enter into an agreement for lease, but even with this, most landlords would still not have the specialised knowledge required for such fitting out.

[38] A Gonzalez-Cacares and T R Nielsen, 'Is the tailor recommendation useful? Policy suggestions to upgrade the EPC recommendation report' 2020 IOP Conf Ser.: Earth Environ. Sci. 410 012080. This cites the "limited impact on [building] renovation rates, lack of relevant recommendations and limited trust from the building owners" 2.

[39] S Highmore, 'Practitioner page: MEES for the residential landlord advisor: Part 2' (2018) 22(5) L&T Rev, 187, 192.

[40] See Appendix D for discussion of the technology and expense.

grades become relevant. Whilst the present minimum energy standard for most business leases is presently an E grade, by 2030 it may be either a C or a B grade, and additionally, as has been shown, these grade boundaries themselves are moving significantly.[41] In such an uncertain environment, it is difficult for either landlord or tenant to know even the approximate cost of works required to bring premises up to a particular standard, and to be able to plan for the future over a number of years.[42]

Fourthly, any terms implied, whether by statute or by caselaw, become part of the lease itself; this is because such terms are intended to regulate the parties' behaviour within, and during the time-frame of, that lease. However, implying a term requiring one party to bring the premises up to a certain EPC standard at the end of the lease cannot fully be said to be a provision governing the parties' behaviour during the lease. By analogy with the express covenants found for tenants to yield up their property at lease end in a good state of repair, such provisions only fully operate upon the last day of the lease term. In contrast, the equivalent terms implied by the 1927 Act regarding alienation covenants, user covenants and covenants against alterations, all regulate the parties' behaviour during the lease itself.[43] On the last day of the lease, it would not be possible for a landlord to obtain an injunction against their tenant preventing subletting, for example, but on that same day, the landlord would be able to take immediate action against the tenant for breach of a terminal dilapidations schedule, albeit subject to the detailed pre-action provisions in the Dilapidations Protocol[44] governing this matter.[45] The converse would be true where substantial EEW and refurbishments are planned,

[41] See Chapter Two (2.3) and especially Brøgger and Wittchen's article which raises concerns about the movement of EPC grade boundaries.
[42] Ibid.
[43] See s.19(1) to s.19(3) of the Landlord and Tenant Act 1927.
[44] The Pre-Action Protocol for Claims for Damages in Relation to the Physical State of Commercial Property at the Termination of a Tenancy (the "Dilapidations Protocol") provides a suggested timeline for both parties to exchange "early and full information" prior to consideration of litigation. See para 2 at pp 2182 Civil Court Service 2021 Lexis Nexis.
[45] It is true that s.18 of the 1927 Act deals with the end of the lease term, but this section operates in quite a different way in that it places a cap or limit on what damages may be recovered for disrepair at the end

in that at the start of the lease, it is likely to be common for both landlord and tenant to allow some years for the works to be carried out or simply to require such works to be done by the end of the lease. In such situations, problems of enforcement may well arise; perhaps more of a practical issue than a legal one, since in the absence of specific time limits it would be difficult for the non-defaulting party to know when they ought to enforce against the other in situations where there is no breach until the last day of the lease.

Fifthly, there are also practical reasons why it is not easy to separate out the specific EEW required to upgrade or improve a property from those, more general, works which would in any event have been required to hand the property back in a good state of repair. Those reasons were detailed in Chapter Two where it was shown that for EEW most buildings need to be considered as a whole, since one part of the building cannot be considered in isolation when considering heat loss from poor insulation, lack of air-tightness or through thermal bridges. The question of what should constitute repair work only as opposed to energy efficiency improvements will be revisited in Chapter Four.[46] However, for now it may be said that if a tenant is covenanting in their renewal lease to carry out EEW to a particular standard after their landlord has carried out some initial refitting work, but then realises that their landlord's promised refit works did not leave the premises in a good state for energy purposes, one can imagine complex litigation resulting.

Sixthly, the question remains of whether implied energy covenants should be amendable by the parties to a lease; in other words, whether any covenants implied would just be default covenants which can be overridden. Such a question was tackled by the 1975 Commission which discussed the possibility of categorising covenants in leases into "variable" covenants and

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of the lease term. In other words, s.18 neither mandates nor prohibits the behaviour of either party to the lease, but simply limits the landlord's power to recover damages; see para 4.3.

[46] See para 4.3.

"overriding" covenants.[47] In their thinking, the former type of covenants would be implied ones that landlords and their tenants would be free to amend if they wished, whereas the latter covenants would be implied into every lease, even if the parties did not wish them to be.[48] Although such a categorisation is possible, it is difficult to imagine how energy efficiency covenants could be classified in this way, particularly in view of the older buildings that they will be required to be used for.

3.4 Implying covenants into leases of different lengths

Short leases of part

The Jenkins Committee considered that different approaches should be taken for leases of different lengths, particularly when it came to implying covenants into them.[49] Whilst one should be careful in attaching too much importance to a review which now dates from nearly three-quarters of a century ago, the dozen or so covenants that the Committee felt ought to be implied into leases were treated differently as follows.[50] For leases of 3 years or less, the landlord essentially had to repair all the property.[51] For leases of 3 to 14 years the repairing liability was split (landlord exterior, tenant interior),[52] and for leases of over 14 years the Committee suggested that the tenant had to repair all of the property.[53] This approach may be admirable for its simplicity, and in 1992 seemed to be endorsed by a subsequent Law Commission consultation paper which felt that dividing responsibility for repair between landlord and tenant with a detailed scheme of responsibility in different cases would just be too

[47] Law Commission, *Codification of the law of landlord and tenant: Report on obligations of landlords and tenants* (Law Com No 67, 1975) paras 28 to 29 which detail the two types of covenants. Note also that from paras 136 ff, the Commission intended that most landlord's repairing covenants should be variable.
[48] Ibid. See also the Law Commission's 1992 report (n.31) paras 1.6 to 1.7.
[49] Leasehold Committee, *Final Report* (n.19) facing page 118.
[50] Ibid.
[51] Ibid.
[52] Ibid.
[53] Leasehold Committee, *Final Report* (n.19) facing page 118. Note that a different approach was suggested for some specific leases like furnished lettings.

complex.[54] The 1992 paper felt that "the more sophisticated the [repairing] scheme, the more unlikely it would be that the outline of the law would be generally understood".[55] Certainly, since the Jenkins Report there has been a reluctance to imply covenants for repair wholesale into leases, although from time to time the matter has been re-visited.[56] Moving across from implied repairing covenants to alienation covenants, the Law Commission has flirted with similar ideas about forbidding alienation clauses completely in shorter term leases,[57] stating that their deliberations, "may … lead to the conclusion that absolute covenants against assignment and subletting might be permitted in the case of short leases".[58] Although their ideas were never to be implemented, the Commission's comments about the desirability of retaining such an ability to ban alienation for much longer leases for specific leasehold management reasons do illustrate once again the difficulty of having a one-size-fits-all rule for all lease lengths and types.[59]

To take a practical example, suppose that for any short business lease of (say) three years or less, not only should a covenant be implied that the landlord maintains the structure and exterior, as suggested in the Jenkins report table, but also now that a further covenant is to be implied that the landlord must carry out the works required to put the premises into an energy efficient state (of either grade C or B, say). If, either from lack of interest or even because of express refusal of the landlord such works are never carried out, arguably the remedies open to the tenant would not be as substantial as those for a breach of covenant if the premises were not to be kept in a good state of repair. As discussed earlier, making energy efficiency improvements to a building is a separate matter to keeping it in good repair,[60] and there would be no common-law right for the tenant to simply withhold part of their rent to cover the cost of

[54] Law Commission, *State of property* (n.31) para 5.19.
[55] Ibid para 5.20.
[56] Law Commission, *Report on obligations of landlords and tenants* (n.47) para 108. This considered whether to extend the implied repair covenants for residential leases into business leases.
[57] Law Commission, *Provisional Proposals relating to covenants restricting dispositions* (n.17) para 1(12) p31.
[58] Ibid.
[59] Ibid.
[60] See para 1.1.

the repair works, which is a "simple self-help remedy" that presently exists for tenants in repair claims.[61] Furthermore, suppose the tenant were able to bring an action for the landlord's breach of covenant (i.e., not carrying out EEW). The difficulty is that there will be no lack of repair alleged, and so the premises have not been incapable of use by the tenant, but have merely not been complying with the updated energy efficiency requirements. It is, therefore, uncertain what the tenant's remedy could be, as there is arguably no financial loss to the tenant, although injunctive relief or specific performance may assist. Perhaps, using some legal imagination, a good starting point would be to take the figures in the EPC report for the cost per square meter of heating or energy intensity, over the remainder of the lease. In such a way, if the cost of carrying out such works is £100 per square meter, and the energy saved would be £5 per square meter per year, then a simple calculation shows it will take 20 years to recover the cost of carrying out such works. By so doing, the savings to the landlord or tenant could be easily understood in a figure that both landlord and tenant can apprehend. Difficulties still arise, however, if the cost to the tenant of doing the works is higher than the savings envisaged by the EPC, even over the rest of a long lease, or if the cost of savings to the tenant would be small. Court action in these circumstances would appear to be ineffective.

Again, using analogy as a tool, during history more effective remedies have existed to persuade one party to the lease to comply. Provisions dating from 1730[62] enable landlords to recover double rent if the tenant overstays their welcome at lease end, a provision which is not only still in force, but is to be interpreted as a penal statute.[63] Recent case law has confirmed that this does need wilful holding over, or some sort of knowledge on the part of the tenant,[64] but perhaps using such a principle, with the injured party being able to recover (say) an extra

[61] N Dowding K Reynolds and A Oakes, *Dilapidations: The Modern Law and Practice* (5th edn, Sweet and Maxwell 2018) 873.
[62] The Landlord and Tenant Act 1730 s.1.
[63] Lees K, 'Double trouble: forgotten remedies' Woodfall L&T Bulletin (2019) 2 (Jul) 1, 2.
[64] *TFS Stores Limited v Designer Retail Outlet Centres (Mansfield) General Partner Limited & Others* [2019] WLR 331 (Ch D) per HHJ Davis-White at [147 to 150]. Note that this point was not discussed in the 2021 appeal case.

half of their rent where EEW have not been carried out, could be a possibility under future energy efficiency legislation. Although it avoids the problem of having to prove financial loss, it does seem a crude way to enforce any energy efficiency obligation in the lease.

Long leases of part

For longer leases, one option may be to give the parties the option of whether to choose to undertake EEW for longer leases, but to give the court power to intervene if the parties cannot agree. Albeit in a very different scenario, a similar principle is found within the Landlord and Tenant Act 1938,[65] which was passed to prevent the mischief of landlords buying up properties in poor repair, serving a forfeiture notice on the tenant, then forfeiting the lease at significant profit.[66] This statute requires landlords to provide a notice to tenants endorsed upon most s.146 notices,[67] which warns the tenant of their right to serve a counter-notice on the landlord claiming the protection of the 1938 Act. What is less well known is the fact that the landlord's intention to forfeit can be challenged by the tenant in court, but on any one of only five specified grounds.[68] There are however, some conceptual differences between the 1938 Act and the point under consideration, since the 1938 Act was designed to be restrictive (i.e., not to impose a positive duty on either party) and additionally the relevant parts of that Act only operate when the landlord is considering forfeiting the lease. Furthermore, the 1938 Act is not without its critics, since the Law Commission has expressed concerns about the "duplication of proceedings which [the Act] involves in many cases of breach of repairing covenants".[69] However, there is still no reason, in theory, that a similar procedure could not be used for starting longer leases

[65] See s.1 of the Act.
[66] M Shelton, *A Practical Guide to the Law of Dilapidations*, (Law Brief Publishing 2018) 27.
[67] A notice served under s.146 of the Law of Property Act 1925 is required prior to forfeiting a lease for breaches other than non-payment of rent.
[68] By s.1(5) of the 1938 Act, the five grounds are: (a) preventing substantial diminution in the landlord's reversion, (b) for giving effect to a law or court order, (c) where the occupier of part of the premises needs the works doing, (d) where deferring the works would cause much greater expense and (e) other special circumstances. These are discretionary grounds, and so the court does not have to allow the landlord to sue even if the grounds are made out.
[69] Law Commission, *Termination of tenancies* (n.12) para 10.13(4).

which are proposed between landlord and tenant where, for example, the landlord wishes the tenant to contribute towards EEW over the term of a 10-year lease, but the tenant is unwilling to do so. Perhaps the court could be asked to impose a new, implied term in the lease in those circumstances where the parties have been unable to agree.

In practice, however, these ideas are unlikely to find much favour either with Parliament or the courts, as conceptually there is a big difference between courts being asked to determine the terms of a lease at the outset and one party bringing a defence to a claim for forfeiture at the end of an existing lease (as in the s.146 notices and the associated procedure under the 1938 Act). In the latter case, the court is being asked to adjudicate in a relationship which is at its end, whereas in the former case if the court is being asked to determine such terms from the outset of an entirely new lease, it does suggest that the relationship between landlord and tenant will never be a peaceful one.

Other types of implied energy covenants

The question of implying either a covenant for the landlord to do EEW, or at the least from banning the tenant from doing such works in short leases, is now reconsidered. When considering the likely costs for refurbishing business premises (which, as seen in previous chapters, may be substantial)[70] such an implied covenant for EEW would at least give all short-term business tenants peace of mind that they could never be required to carry out energy refurbishment works, no matter how much pressure their landlord exerted before or after signing the lease. However, on more detailed consideration, there are some conceptual difficulties with this approach also and although they are not identical to the Law Commission's concerns outlined above in the context of alienation and user, the problems with imposing any absolute ban on EEW by one party become obvious. By way of example, a lease for ten years which is terminable by a tenant's break clause after just one year could still enable landlords to

[70] See para 2.4.

force their tenants to carry out EEW at the start of the lease. This is a position which would seem unfair if the tenant needs to exercise its break clause early in the lease.

Likewise, a discontinuous lease of premises used seasonally for four months each year, but which has a term of twelve years would also dole out the same fate to tenants, since this lease would not be covered by the simple three-year rule. There are already problems with such leases documented by Pawlowski and Brown.[71] Such leases are uncommon,[72] but it is already unclear whether Part II protection will apply, for example.[73] Adding the complexity of possible implied terms to carry out energy works would further complicate the already complex issues arising from discontinuous leases.

It is also not certain how implying an EEW condition into leases that are merely tenancies at will might be effective. The tenancy at will remains a "hybrid"[74] which is mainly used for circumventing the security of Part II,[75] where a tenant enters premises pending the finalisation of a formal lease. Nor does the problem stop with tenancies at will, since the quite separate implied periodic tenancy may also cause difficulties if implied energy covenants are required to be inserted. Even though since the advent of twentieth century security of tenure, implied periodic tenancies now have "a weake[ned] … presumption in [their] favour",[76] the author of this thesis regularly encounters tenants who have been in their unit for many years, quite content to holdover on an unknown basis until the landlord loses patience and instigates the s.25 lease renewal procedure. Policing the implying of a covenant for one party to carry out energy works into such implied tenancies, often agreed only verbally, would be difficult.

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[71] M Pawlowski and J Brown, 'Short term lettings and discontinuous leases' (2018) 22(2) L&T Rev 46, 48.
[72] Ibid 48.
[73] Ibid 49.
[74] M Pawlowski, 'What role the tenancy at will?' (2019) 23(1) L&T Rev (2019) 19.
[75] Ibid 20. Note that the Law Commission did not feel that tenancies at will were being misused in this way: see Law Commission, *Landlord and Tenant: Business Tenancies: A periodic review of the Landlord and Tenant Act 1954 Part II* (Law Com No 208, 1992) para 3.13.
[76] J Morgan, 'The rise and fall of the implied periodic tenancy' in S Bright (ed) *Modern Studies in Property Law – Volume 6* (Hart 2011) 133, 137.

The converse situation arises in the context of reversionary leases. A tenant, for example, that is reaching the end of their long demise but who negotiates a short further lease to take effect at the end of their initial lease, will already have had a number of years in that same property. In such circumstances it seems fair for landlords to at least be able to require their tenants to carry out some EEW by way of an expressly agreed covenant in the new lease, yet once again a simple ban upon any such works being done by tenants for leases of three years or less would not permit this.

Energy refurbishment by landlord only unless reasonable to ask tenant

Still other options may be considered apart from varying the EEW according to the length of lease. For example, landlords could normally be required to do such works, except where it is reasonable for their tenant to carry them out. Alternatively, perhaps it could be stipulated that landlords are permitted to ask their tenants to undertake EEW during the lease, but the landlord has to provide a schedule, prior to the lease being executed, showing their prospective tenant which EEW are to be carried out, over what timescale, what the likely financial cost would be and what the expected energy savings would be. As demonstrated previously, much of this information is already obtainable from the EPC and its associated recommendations report[77] though, as also shown, the accuracy of these EPC grades is to be treated with considerable caution, particularly for lower-graded properties.[78] Finally, perhaps some tenant's EEW could be mandated, but only for certain types of works, i.e., if they will be internal, or if likely to entail small amounts of disruption. The difficulty with that is requiring the parties or a court to decide what is only minimal disruption and that, in addition, when considering any energy refurbishments, the building must be treated as a whole. The type of problems referred to in Chapter Two, where one party chooses to utilise the least effective and cheapest insulation

[77] The recommendation report was required by the recast Directive; Council Directive 2010/31/EU On the Energy Performance of Buildings (recast) art 11(2).
[78] See para 2.3.

possible, would be widespread, and the potential for complex litigation correspondingly greater. Such options are raised here merely to illustrate further the complexities of implying any covenant for EEW and so are not considered further.

To summarise, the foregoing examples all illustrate that choosing an ostensibly simple rule of, say, forbidding landlords from asking their tenants to undertake EEW in leases of less than three years, may mean that there are several types of leases that would not be covered by any such rule on the one hand, and there may also be situations which unduly restrict landlords' freedom to ask tenants to carry out energy refurbishment on the other hand. The remarks made by Sir Maxwell Fyfe after discussion of implied covenants in the context of tenant's improvements are apposite here:

> Time and again in preparing the Bill we came up against a difficult decision. Where exactly were we to strike the balance between the interests of landlord and tenant… there is a temptation to go so far in the pursuit of absolute fairness that one produces a system too complex to be workable.[79]

Nearly seventy years after Fyfe's comments, the difficulty of striking the balance which was mentioned at the time of discussion of the 1954 Bill remains, since implying energy covenants wholescale into any and every type of lease is a solution which is too broad in the context of energy efficiency measures. Particularly where passive works are required to a building, which will require significant refurbishment work, it is suggested that imposing covenants wholescale into every tenancy will not be of much practical use.

3.5 Conclusions

There is a sense in which this Chapter has been doubly ambitious. Not only has it involved discussions about whether to imply a covenant mandating EEW to be done, but it has also

[79] HC Deb 27 January 1954, vol 522, col 1773.

discussed that in the context of the existing law for repairs (i.e., where repairs are in any event to be carried out prior to such EEW being carried out). Additionally, because even for "ordinary" covenants relating to repair, there is so little legislation regarding implied covenants for business leases that any arguments for energy efficiency covenants have had to be derived in this thesis by way of analogy, (i.e., from instances where covenants have not been implied directly, but merely tangentially or indirectly). Whilst the Law Commission's thinking has been enlightening, it must be admitted that there is only limited analogical connection between, for example, a covenant to restrict change in user of the lease,[80] and a covenant requiring one party to carry out EEW.

Returning to the question of whether there should be a term implied for one party to carry out EEW, there is arguably a strong case for importing such a covenant requiring the landlord to carry out all such works in all shorter commercial leases, whether these leases are of the whole or part of a building. This is simply because for short leases, it does not seem fair on the tenant to impose requirements that they carry out potentially expensive EEW. Likewise, there is a strong case for requiring the landlord to carry out all such works in all longer leases of part (i.e., not the whole) of an entire building of uniform structure and demised on similar leases. Even for the concrete monstrosities built in the 1960s, by using a good active HVAC system combined with passive measures, a landlord ought to be able to make the entire building energy efficient and recover the costs of that over time through the service charge. However, where buildings are non-homogeneous, such as the fictitious example being considered, the appropriateness of such energy efficiency covenants being implied is a much more difficult question. This approach reflects the NABERS approach for rating buildings, where, as mentioned above,[81] the part being graded is first designated as either a whole building or a base building. For long leases, where

[80] S.19(3) of the Landlord and Tenant Act 1927 which states that, so long as structural changes are not required, a landlord may not ask for either a premium or increased rent for a change in the user clause.
[81] See Chapter One (para 1.5).

the tenant will have a much greater interest in the property, or for more specialised industrial uses, the position is admittedly more complicated and there are also significant conceptual problems with implying any such covenant to carry out EEW.

All these suggestions above may provide part of the answer for EEW for future leases, but they do not solve the problem for leases where there is a longer term of years, where it does seem fair to expect tenants to shoulder some of the cost of EEW. Furthermore, in those scenarios where a tenant has demised a building and already carried out expensive EEW itself, not only is there at present no satisfactory way for them to recover the energy efficiency costs incurred, but there are also equivalent difficulties where a landlord wishes to force the tenant to carry out environmental works by lease end under the dilapidations provisions. Both latter concerns are separate, but interrelated matters which will be discussed in the next chapter.

4 CHAPTER FOUR: Recovering Payment for Energy Efficiency Works Carried out by Landlords or Tenants

4.1 Introduction

The law presently provides two quite different remedies for landlords seeking to recover costs for lack of repair at lease end ("dilapidations") and for tenants seeking to recover the costs of their improvements. One potential complication is that, depending on the exact wording used in the lease, energy efficiency works (EEW), particularly those of a passive nature which are being considered here, may well fall into both categories, namely repairs and also improvements. Accordingly, this Chapter assesses compensation both in the case where the landlord seeks to recover damages for lack of repair against the tenant, as limited by the statutory cap,[1] but also where the tenant seeks to recover compensation for the cost of energy improvements against the landlord under s.3 of the Landlord and Tenant Act 1927. An obvious complication is that, at the moment, there is no statutory requirement for any such works to be undertaken whatsoever, so what will be assumed generally in this Chapter is that there is a covenant for such works to be carried out by someone.

For simplicity, the approach taken here will again use the fictitious example and the left-hand building (a demise of *part* of the property where in a well-drafted lease the landlord will repair the structure) and the right-hand building (a demise of *whole* where usually the tenant repairs the building) as examples. However, it will be appreciated that in practice, landlords and tenants could be carrying out passive works in either scenario. In each case, it will be assumed that the type of passive EEW being carried out are insulation installation, energy efficient glazing, airtight measures and reducing thermal bridges in the girders and other areas of the buildings.

[1] S.18(1) of the Landlord and Tenant Act 1927. Selected parts of the 1927 Act are contained in Appendix E.

The first subsections of this Chapter consider compensation for landlords,[2] and the following subsection compensation for tenant's works,[3] in both cases at the end of the lease. Forfeiture is not considered here, partly as it is beyond the scope of this work, and partly because the present system is "lengthy, complex [and] expensive".[4]

As the Law Commission noted, there are two separate statutory restrictions restricting landlord's damages for a tenant's lack of repairs, one of which is a restriction on taking proceedings and the other imposing a financial limit on the amount recoverable.[5] The former, under the Landlord and Tenant Act 1938, was considered in the previous chapter, and it is the latter, together with the common law provisions, which are considered here. Once again, the approach taken is to consider the law as it stands, and then explore how that might be applied so as to assess the procedures in the context of EEW. Although it is admittedly a generalisation, this will be far more common in buildings where the tenant has demised the whole building from the landlord, rather than just a part. If there is (unusually) an express covenant in the existing lease requiring the tenant to carry out EEW, it is an easy matter for the landlord to recover such costs. However, most leases do not have these covenants and, in the absence of them, we return to the same debate about whether there should be a covenant inserted for one party to carry out EEW.[6]

4.2 Compensation for landlords: dilapidations at lease end

Most commentators do not believe that the cost of future EEW will be recoverable as part of dilapidations. Sullivan's thoughts are typical, when he refers to Dowding and Reynolds' analysis, and concludes "there is not much scope for the majority [of the anticipated EEW] to be

[2] See paras 4.2 and 4.3.
[3] See para 4.4.
[4] E Hatfield, 'A critical look at landlords' remedies for tenants' breach of repairing covenant – Part 2' (2012) 16(5) L&T Rev 183.
[5] Law Commission, *Landlord and Tenant: Responsibility for state and condition of property* (Law Com No 123, 1992) para 2.37.
[6] See Chapter Three (3.2 and 3.3).

included in a dilapidations claim".[7] That is the case for existing leases ending in the next few years, although it must be remembered that quite a different question might exist for new leases which are entered into in future which may well have express provisions for EEW.

***Joyner v Weeks* in the light of energy efficiency works**

This section assumes that *Joyner v Weeks*[8] was correctly decided,[9] a set of facts that has been described as "startling".[10] The facts were that, at the expiry of the 21 year lease of a house and ground-floor shop, the tenant left the premises in disrepair and the landlord sought to recover the costs of the disrepair work. However, a couple of years before, the landlord had granted reversionary leases of the buildings on either side – together with the premises forming the subject matter of the dilapidations claim – to one new tenant, who knocked through all three ground floor units to make one set of premises. The Court of Appeal held that the landlord was still entitled to recover the full sum for dilapidations from the original tenant of the middle building, even though, as Gaunt puts it, "[the landlord] had not spent [the money], was not going to spend it, and the work was not going to have to be done."[11]

This decision meant that a landlord could recover damages for repairs which were never needed, a decision which has led to many ironies.[12] Briefly, three reasons were given for the judgment in *Joyner* which are: firstly, its simplicity,[13] secondly, that the tenant was not being

[7] C Sullivan, 'What higher EPC requirements mean for landlords' Built Environment Journal 15th June 2021. https://ww3.rics.org/uk/en/journals/built-environment-journal/what-higher-epc-requirements-mean-for-landlords-.html. Accessed 3rd February 2022.
[8] *Joyner v Weeks* [1891] 2 QB 31 CA.
[9] It is in any event far from certain that *Joyner v Weeks* would be decided the same way today; see N Dowding and K Reynolds, *Dilapidations: The Modern Law and Practice* (6th edn, Sweet & Maxwell 2018) 721.
[10] J Gaunt, 'Where the law went wrong – Joyner v Weeks' (2013) 17(6) L&T Rev 202, 203.
[11] Ibid.
[12] Ibid 206.
[13] Per Lord Fry in *Joyner* (n.8) at 46.

asked to do anything more than he or she had in any event covenanted at the start of the lease[14] and thirdly, the decision followed a "long line" of previous caselaw.[15]

There is, however, some suggestion in Dowding that neither in *Joyner* nor in the case of *Ebbetts v Conquest*[16] only a few years later was it intended by the respective judges that the cases should set inflexible precedents. The authors of Dowding highlight Lord Esher's formulation in *Joyner* which suggested that sometimes there would be "circumstances which render the rule inapplicable".[17] It is suggested that this is of relevance to energy efficiency law because, when such works are carried out in future leases, they may well become part of the building comprising the demise, and so there may be circumstances where the tenant has carried out such works to the building, but they become part of the landlord's property, or are intended to become so. That is particularly so with passive works, because they are not easily removable and so almost certainly the presumption that such works are intended to become the landlord's property permanently will operate.[18] Indeed, unless future lease provisions have been very carefully drafted, uncertainty may arise as to whether the new EEW when completed eventually will form part of the landlord's reversion or still remain part of the tenant's demise. To give two examples, if skylights are to be installed in the properties, any existing wording in many present business leases would mean that these are likely the tenant's responsibility. Likewise, if insulation is to be installed between the inner and outer walls of the left-hand building, this may sometimes become the tenant's responsibility. The danger lies not so much in the initial years of the various renewal leases, but at the end of the renewal lease in (say) ten years' time, when either the landlord or the tenant may have changed. If EEW have not been

[14] Denman J's comments in *Morgan v Hardy* (1886) 17 QBD 770 to the effect that a tenant was only doing that which they had promised to do when they took the lease, were quoted by Fry LJ with approval in *Joyner v Weeks* at 46.
[15] Lord Esher in *Joyner* described a long line of prior cases as forming an "inveterate practice" at 43.
[16] *Ebbetts v Conquest* [1895] 2 Ch 377.
[17] Dowding and Reynolds (n.9) 720.
[18] Ibid 593ff. What constitutes a tenant's or landlord's fixture in the light of degree of permanence and intention is not considered further as being beyond the scope of this thesis.

properly carried out by the end of the lease, any dispute arising as to who should assume the cost could be expensive. It is perhaps just possible to argue that these could be circumstances rendering the "ordinary prima facie rule" in *Joyner* inapplicable,[19] but unlikely, since that decision operated harshly for tenants, and it took the enactment of s.18 to mitigate affairs for the tenant over 35 years later.[20]

Supersession and dilapidations.

Where a landlord is hoping to carry out works which will go beyond the standard of repair, this invokes the doctrine of supersession. The Dilapidations Protocol[21] requires such items to be listed separately,[22] so that if they are agreed, the tenant and the landlord can simply deduct those items from the overall list of items to be paid for. Particularly upon the expiry of longer leases, the cost of some types of passive measures and particularly double-glazing, may be deductible from the cost of dilapidations claims, where over the passing of time of the lease it has become normal for much more energy efficient materials to be used to replace older materials. In the same way, active measures may also come under the doctrine of supersession, such as new boilers that are more efficient than a previous 20-year-old model or air-conditioning units that need to be replaced.[23] Similarly, in *Sunlife Europe Properties v Tiger Aspect Holdings*,[24] the tenant successfully argued for a deduction from the cost of a new HVAC system, since the 25-year-old system could not handle modern cooling loads in buildings with many computers.[25] The new system was going beyond ("superseding") the old one, and so the tenant was not required to pay the full amount of replacement. In the bygone era prior to EEW, perhaps

[19] Per Lord Fry at 47 and see Dowding's comments above (n.17).
[20] See para 4.3.
[21] The Pre-Action Protocol for Claims for Damages in Relation to the Physical State of Commercial Property at the Termination of a Tenancy ("the Dilapidations Protocol").
[22] Paragraph 5.6 of the Dilapidations Protocol; ibid. See *The Civil Court Service 2021* (Jordans) para 4.106.
[23] A good example is the requirement a few years ago to phase out HCFC R22 gas in air-conditioning units; see J Bignell, *Lewison's drafting business leases* (8th edn, Sweet and Maxwell 2013) 323.
[24] *Sunlife Europe Properties v Tiger Aspect Holdings* [2013] EWCA Civ 1656, [2014] 1 EGLR 30.
[25] M Shelton, *A Practical Guide to Dilapidations Claims* (Law Brief Publishing 2018) 66.

supersession would not have mattered as much. However, as demonstrated in Chapter Two,[26] where EEW are concerned it is much less easy to separate one part of the building from another when assessing the building's heat loss, and therefore its expected energy efficiency grade.

When considering dilapidations, one can now easily imagine situations where installation of the very latest double-glazing technology, with its low U-values, would save an entire building from failing its EPC assessment. However, if slightly inferior (but still modern and suitable double-glazing units) were to be installed instead by the tenant, the entire building will fail its EPC assessment. When deciding who should pay, and how much, an appreciation of the basic science of heat loss in buildings is crucial, together with an understanding of the effectiveness of the likely passive works that could have been carried out. The possibility of litigation is high, particularly with complex regeneration projects where, given the present debate around energy certificates, unlike a brand-new property it cannot be said at the outset of any new lease that either party can predict the chances of passing the building's EPC test at lease end.

4.3 A cap on landlords' compensation: S.18 Landlord and Tenant Act 1927

Although s. 18(1) was passed to limit the hardship of *Joyner*, it is a statute that has been described as producing "more commentary than almost any other topic in dilapidations".[27] To complicate things further, the two limbs of s.18 are also interpreted differently, as will be discussed shortly.[28]

Although s.18 purports to place a cap on damages recoverable by the landlord, there are gaps in its efficacy, something the Law Commission pointed out[29] when it referred to *Moss Empires.*[30] In *Moss Empires* it was held that a covenant by a tenant to spend a regular monthly

[26] See para 0.
[27] J Rogers, 'S.18 of the Landlord and Tenant Act 1927 – contracting out?' (2013) 17(6) L&T Rev 207.
[28] For convenience, the text of s.18 is set out in Appendix E.
[29] Law Commission, S*tate and condition* (n.5) para 3.30.
[30] *Moss Empires Ltd v Olympia (Liverpool) Ltd* [1939] AC 544.

or annual sum on repairs was unaffected by s.18.[31] More recently, under the Court of Appeal's decision in *Jervis v Harris,*[32] where landlords enter a property to carry out works themselves in the tenant's default, the cost of such works becomes a debt for a fixed sum,[33] which is not capped under s.18(1). Where EEW are considered to be repairs, it seems that a landlord's claim against a tenant would not be limited by s.18 under what have been referred to as "potentially far-reaching consequences for terminal dilapidations claims".[34] When considering the substantial cost of passive EEW, therefore, in those small number of cases where a tenant has already covenanted to carry out such works expressly in their lease, then notwithstanding the purported operation of s.18, landlords may well be able to recover the full costs in default of the tenant's doing such works since the common law position will still apply. In other words, the s.18 cap is, even at present (i.e., without discussing EEW) far from being a panacea for the tenant.

Shelton considers that the most likely future impact of the MEES legislation is that it will affect the s.18 dilapidations cap.[35] It will be recalled that there are two "limbs" to s.18, which place restrictions upon what a landlord can recover from the tenant at lease end. These limbs operate as follows. Firstly, where the value of the landlord's reversion has not been diminished by more than a certain amount, then that amount is all the landlord is entitled to recover,[36] even if the actual cost of carrying out the works was more. Secondly, if the landlord was going to demolish or rebuild the premises anyway soon after lease end, then nothing at all can be

[31] Law Commission (n.29) footnote 53.
[32] *Jervis v Harris* [1996] Ch 195.
[33] Ibid 202 per Millett LJ.
[34] Dowding (n.9) 709.
[35] Shelton, *Dilapidations* (n.25) 116.
[36] S.18(1) of the 1927 Landlord and Tenant Act.

recovered.[37] This latter limb is sometimes known as supersession, which may or may not assist a tenant seeking to cap their cost of energy efficiency measures.[38]

The first limb of s.18(1) in the light of energy efficiency works

Recalling that the wording in s.18 only applies to repairs, that is "to keep or put the premises in repair",[39] doubt may arise as to whether a tenant's covenant to carry out EEW could be considered improvements or merely repairs. If deemed to be the former, the s.18 cap will not apply to damages recovered by the landlord at the end of the lease. As Highmore indicated, such are the limitations of *Jervis v Harris* clauses that landlords entering the property to carry out EEW may not be able to recover such costs where they "shade into renewal or replacements".[40] Given the difficulty noted previously[41] in categorising passive EEW as repairs or improvements, this does not aid clarity for landlords, tenants or their lawyers.

Where, however, the works are genuine repairs, the tenant can only be asked to pay the amount by which the landlord's reversion has been devalued.[42] In calculating this cap, the only two figures that will be relevant are the in-repair valuation of the reversion, and the out-of-repair valuation, and the difference between them.[43] Other valuation issues such as considering whether a new lease is to be taken, or any agreement for lease, are normally irrelevant.[44] Likewise, when ascertaining the reduction in value to the landlord's reversion under the first limb, even without considering the complication of EEW, the landlord's intentions are normally

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[37] Ibid.
[38] There is a difference between the definition of "substantial" works in s.30(1)(f) of Part II, and "structural" works which is used in s.18 of the 1927 Act which is explored below.
[39] S.18(1).
[40] S Highmore, '*Jervis v Harris* clauses: not worth the paper they are printed on?' (2012) 16(5) L&T Rev 175, 176.
[41] See para 4.1 above.
[42] There is an equivalent principle under s.1(2) of the Landlord and Tenant Act 1927 where the landlord need not pay compensation to the tenant if it is found that their intentions after the lease expiry will "render the improvement of little or no value to him" Woodfall vol 2, para 22.211.1 (Issue 3, 2021).
[43] E Hatfield, 'A critical look at landlords' remedies for tenants' breach of repairing covenant – Part 1' (2012) 16(4) L&T Rev 138, 141.
[44] Ibid.

irrelevant. In *Crewe Services and Investment Corp v Silk,*[45] Walker LJ[46] cited Lord Lloyd's comments in *Ruxley Electronics & Construction Ltd v Forsyth*[47] that "The courts are not normally concerned with what a plaintiff does with his damages. But it does not follow that intention is not relevant to reasonableness, at least in those cases where the plaintiff does not intend to reinstate".[48]

The brief paragraph in Dowding on the MEES issues raised by the first limb, in particular relating to supersession, provides little detail but simply states that "some of the repair work may be superseded by the [MEES] improvement works",[49] where, as will be the case from April 2023, the notional buyer of the reversion will usually want the holding to be of EPC grade E or above.[50] No doubt the position will become clearer as the first cases are decided by the courts in years to come, but what may be said presently is that the cap of the first limb of s.18(1) will offer serious problems in ascertaining the valuation for some properties in the light of the energy efficiency requirements imposed by MEES. Landlords are likely to find that carrying out both passive and active EEW in older, more bespoke properties which need substantial refurbishment and which could be used by a range of tenants, may make it very hard to value both their reversion as it actually is at the end of the lease, and also as it should be if the tenant had done the repair work they ought to have done. If, as the Government had proposed, two systems of energy classification are used (NABERS and EPCs) then valuation could become an even more difficult task.

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[45] *Crewe Services and Investment Corp v Silk* [1998] 2 EGLR 1.
[46] Dowding (n.9) 756.
[47] *Ruxley Electronics & Construction Ltd v Forsyth* [1996] AC 344.
[48] Ibid 372.
[49] Dowding (n.9) 772.
[50] Ibid.

The second limb of s.18(1) in the light of energy efficiency works

The second limb of s.18(1) only applies where the building is to be demolished, or where structural alterations are to be carried out. This necessitates ascertaining what structural alterations are, as well as a discussion of when the landlord is deemed to have the necessary intention to do these works. For both words "structural" and "intention", it is necessary to look elsewhere for help in interpreting them as used for the present law. Only after this has been done is it possible to ascertain how carrying out passive EEW may change things.

Definition of "structural"

Crucially, the requirement in future for tenants to pay their landlords for passive works will only apply where the covenant for repair is deemed to be inclusive of environmental works in the first place.[51] In considering the fictitious example of the converted chapel,[52] there are clearly some works such as skylights being inserted into the roof (where some girders and trusses will have to be moved or created) which will always be called structural works. However, most ordinary passive EEW do not as clearly fall into that category. Crucially, the protection given by s.18 (enacted for the tenant's benefit) will only operate if these other works are considered as "structural alterations". Assuming that there is to be a covenant to carry out EEW which is implied in this manner, then although the second limb of s.18 is unlikely to be questioned where the building in question is quite literally to be pulled down,[53] there is still a possible lacuna in the legislation, since at first glance, it would seem that most passive works are not caught by the limitation in s.18 which refers to "such structural alterations as would render valueless the repairs covered by the covenant". However, one case in particular, that of *Pearlman v Keepers and Governors of Harrow School*,[54] suggests strongly that many active and passive EEW will

[51] Or implied by statute in line with the discussions in Chapter Three.
[52] See para 2.8.
[53] Subject to proving the landlord's intentions to do so.
[54] [1979] Q B 56 at 67.

constitute "structural" works. In *Pearlman*, a central heating system was held to be structural, a conclusion that Lord Denning had little difficulty in arriving at:

> I am of the opinion that the installation of central heating to this house was an "improvement made by the execution of works amounting to structural alteration … or addition". It involved a good deal of tampering with the structure by making holes in walls and partitions, by lining the chimney with asbestos … and so forth. Much more than is involved in installing fitted cupboards instead of wardrobes.

Denning's reasoning for finding such works structural seems to focus upon making holes in walls and partitions, and lining the building (i.e., the chimney). These are very similar operations to many passive works carried out as part of refurbishing a property, either by installation of insulation or by making parts of the building airtight. Lane LJ's judgement commented that:

> "Structural" … means something which involves the fabric of the house as opposed to the provision merely of a piece of equipment. It matters not whether the fabric is load-bearing or otherwise… the system is connected in permanent fashion to the gas, water and electricity installations which are part of the fabric of the house. The walls, floors and ceilings have been drilled with permanent holes to accommodate the piping.[55]

Lane's judgment in *Pearlman* is referred to in Dowding and Reynolds, who subsequently caution that "structural alterations do not constitute works of repair".[56] Pawlowski's article[57] also cites *Pearlman*, but adds a further distinction from *Monk and Murphy*[58] that the installation of kitchen sinks and cookers, even with their allied works of plumbing, do not constitute structural works.[59] Whilst it is difficult to draw more than tentative conclusions from a case which focuses on a residential property's central heating system and principles derived from

[55] Ibid 72.
[56] Dowding (n.9) 792.
[57] M Pawlowski, 'Construing Repair Covenants in Leases' L&T Rev (2015) 19(1) 37 at 39.
[58] *Monk and Murphy v Brock* (1949) 113 JP 247.
[59] Pawlowski (n.57) 39.

housing law, overall *Pearlman* does suggest that, particularly if passive measures are taken into account together with the active measures undertaken to a building, EEW could well be considered as being structural, and therefore they would be subject to the cap on damages imposed by the second limb of s.18.

If it is assumed that the decision in *Pearlman* is correct, and that the reasoning above is also correct, because that decision related to what would now be called an HVAC system (i.e., an active system), then in future, for leases with an express covenant for the tenant to do passive EEW, it is arguable that most passive measures would also be classified as structural works. This is because the sorts of works being undertaken for passive energy savings measures are typically much more part of the building than merely installing some pipes and a boiler. If that is so, then both passive and active EEW would be subject to the second limb of the s.18 cap. If *Pearlman* is deemed incorrectly decided, however, or if the logic above applying the decision to EEW is incorrect, there would be no protection for many tenants against landlords bringing a claim for dilapidations damages in future leases. This seemingly small change would be a nefarious trap as, for example a covenant by a tenant to carry out works to give a particular EPC grade by the end of their lease (perhaps with just one sentence in the lease) would mean that the landlord would recover the full cost of any outstanding EEW from the tenant at lease end without the leniency offered by s.18.

Definition of "intention"

The intention of the landlord to either demolish or carry out structural works is not expressly referred to in s.18, but because the second limb can only operate when the landlord intends to pull the building down or do such structural works, the courts have consistently interpreted the first limb as being objective, but the second limb as being subjective.[60] For the second limb, therefore, how intention is gauged raises similar questions to those involved in ascertaining the

[60] Gaunt (n.10) 204.

landlord's intention for ground (f) in Part II lease renewals,[61] including Asquith LJ's "classic" definition in *Cunliffe v Goodman*[62] which was itself a case involving the second limb of s.18(1), that a landlord must have moved "into the valley of decision". Less famous, but of more relevance for EEW, is the later part of Asquith's judgment in *Cunliffe* that there cannot be "too many hurdles to overcome" when assessing intention.[63] It is submitted that in complicated energy refurbishments, the very need to obtain specifications for passive and active works to be carried out will constitute another type of fence or hurdle when ascertaining intention. After reminding us that it is the landlord's intention at lease end that is relevant, Hatfield cites the case of *PGFII v Royal and Sun Alliance*[64] which suggests that where there is an actual upgrade in the premises as a result of the works to be carried out by the landlord at lease end, the tenant is not expected to fund the cost of additional works.[65]

If discerning the landlord's intention for s.18 was complicated previously, it has become much more so since the decision in *S Franses Ltd v Cavendish Hotels,*[66] a case which caused shock in the commercial property world. In *Franses* the Supreme Court held that, when ascertaining the landlord's intention for carrying out works in accordance with ground (f), the landlord must want to do the same works even if the tenant had left voluntarily.[67] Because of the way that intention is ascertained, the decision in *Franses* adds to a large amount of previous guidance for what is meant by intention when considering ground (f) but has not made the position any clearer for interpreting the second limb of s.18(1). More crucially, where EEW are being planned by a landlord, then this decision will amend the present uncertain situation regarding intention in several ways. Firstly, where the tenant is either to carry out repairs and improvements for

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[61] Dowding (n.9) 793.
[62] [1950] 2 KB 237.
[63] Dowding (n.9) 793.
[64] *PGFII SA and PGFII (Lime) SA v Royal & Sun Alliance Insurance plc and London & Edinburgh Insurance Co Ltd* [2010] EWHC 1459 (TCC), [2011] 1 P & CR 11.
[65] Hatfield 'A critical look Part 1' (n.43) 142.
[66] *S Franses Ltd v Cavendish Hotels (London) Ltd* [2018] UKSC 62.
[67] Per Lord Sumption para 19.

energy purposes in their renewal tenancy, or such works are expected to be carried out by the landlord and the cost recovered from the tenant via its service charge, tenants in older properties requiring much refurbishment are more likely to leave. This will be particularly the case where there are other, more modern properties in the vicinity. Secondly, because of the foregoing, it becomes even more difficult to assess the landlord's true intention where EEW are to be carried out. Suppose a tenant wishes to stay in an old building but receives a hostile s.25 notice from their landlord alleging that the landlord wishes to redevelop the site and requesting their lease is terminated via ground (f). Since *Franses*, proving the landlord's intention for ground (f) of the 1954 Act may now require more than a planning permission, depending upon whether the landlord hopes to demolish the entire building and start again, or merely to carry out "deep" refurbishments of the existing building. Where, in addition, the landlord is planning substantial works for energy refurbishment in the years ahead, their intentions must be judged in the light of those works, together with whether they will require the property to be vacant for those works.[68]

Even though intention is not expressly mentioned in s.18, the question of whether a landlord does intend to genuinely take back and redevelop property has always been bound up to some extent with the state of the property to be yielded up under the old tenancy. It is submitted that if EEW become much more common in the decade ahead, these works, together with the *Franses* decision, will make it difficult for judicial certainty regarding claims which are to be capped by the second limb in s.18(1). Clark's assertion that the full implications of the nuances[69] of the *Franses* judgment are yet to be realised seems prophetic – not only for hearings about ground (f), but also for the separate hearings for dilapidations works and any cap under s.18.

It will be appreciated that, for the reasons above, a landlord's intention to carry out substantial energy refurbishment works over the duration of the renewal tenancy will become

[68] Whether the landlord is entitled to request this is considered in Chapter Five.
[69] W Clark, 'Section 30(1)(f): the meaning of intention to develop – Part 1' (2019) 23(6) L&T Rev 215.

harder to determine in the context of the s.18 cap on damages, thus adding more uncertainty for both parties, and the court. One practical reason for further uncertainty is that most passive EEW to an older building will not require planning permission since they are typically within the curtilage of the building, though they may well require building regulations approval. Accordingly, the pre-2018 position of a landlord obtaining planning permission together with financial backing, something which by itself is no longer enough to prove intention because of *Franses*,[70] will be made even harder to verify where the landlord is aiming to carry out passive EEW which are normally going to be internal works only. As stated, this Chapter is concerned with the intention under s.18, not ground (f), but in the context of EEW being done by the landlord, there will inevitably be significant overlap in construing intention for either statute.

A possible third limb for s.18?

Section 18 was debated by the Law Commission, who decided not to intervene in the law as it then stood.[71] However, in this thesis, the possibility is briefly considered of adding an extra limb to s.18, that is, a fictitious "section 18(3)" of the 1927 Act and one which would impose an additional cap allowing landlords to recover no more money than the express doctrine of supersession presently allows, but specifically worded to cover EEW. An example might be where a tenant was required to put the premises into, say, a B grade standard for energy efficiency. If this were to be combined with the energy recommendations list which accompanies the EPC, with its list of prices and works suggested for the property being demised, then provided the EPC and its associated recommendation report are correct, such an extra cap or "third limb" would appear workable for both landlord and tenant since, if the EPC were correct, it should then be an easy matter for both parties to understand the approximate cost

[70] *Franses* (n.66).

[71] See Law Commission, *Working Paper: Landlord and Tenant: Compensation for tenants' improvements* (Law Com No 102, 1987) para 6.39, where the general rule that the landlord should receive the lesser of either the reduction in value of the reversion or the cost of reinstatement was expressly approved by the Commission.

of the works and the savings involved.[72] Problems could, however, exist for the reasons outlined in Chapter Two,[73] given the uncertainty over the accuracy of EPCs, and even the possibility of the Government using NABERS in future. Admittedly for certain types of building where innovative passive modifications will be required, the sorts of complicated and probably expensive refurbishment work that may be required are unlikely to seem "fair" to either landlord or tenant, where neither party can quantify even approximately the likely cost of improvements and any savings entailed.

In summary, if a landlord expects to recover the cost of EEW at lease end, they will be unable to do so in most cases since such works are considered improvements, not repairs. However, in the future, if such works are held to be works of repair because of express or implied wording in the lease, the two limbs of s.18 may well not apply. This is either because of the technical reasons given above, or because notwithstanding *Pearlman* the proposed works are not considered structural alterations, or perhaps because the works are deemed to be supersession works.

4.4 Compensation for tenant's improvements

The second question of this Chapter is now considered, which is; if the tenant carries out EEW during the term of a lease, then to what extent will the tenant be entitled to recover the amount spent at lease end? This question is strongly connected with the distinctions of what the tenant (or landlord) is liable to repair under the lease, as distinguished from renewal and improvements, and these distinctions will be discussed during this subsection.

Obtaining permission for tenant's improvements during the lease

The question of to what extent a tenant may recover the costs of their improvements at the lease end is irrevocably bound up with the question of whether they validly requested consent

[72] A detailed discussion of whether this area should be amended is beyond the scope of this thesis.
[73] See para 2.3.

for those improvements in the first place. Consequently, this subsection firstly considers the question of initial consent for improvements given by the landlord, and then the question of what sort of compensation the tenant will be likely to recover. Both questions are discussed firstly in the case of existing law relating to improvements generally, and then more specifically discussed by reference to EEW.

It will be recalled that s.1[74] allows tenants to receive compensation for improvements they have carried out at their own expense when they quit their tenancy. Although s.1 remains on the statute books, it is seldom used for tenants to recover money, and indeed the Law Commission has mooted its abolition.[75] Just because the rights that s.1 confers are little used, however, does not mean that these rights are otiose, since they are often used strategically by tenants to reduce a potentially large terminal dilapidation claim by making a large counterclaim.[76] Arguably, therefore, s.1 does remain of significant use to tenants, albeit only indirectly, in that it provides an invisible defence against many spurious claims by landlords. However, for those tenants who have undertaken energy work to improve their premises, the provisions of s.1 are not easily used to obtain compensation for those works when they quit, partly through ignorance of their existence,[77] and partly perhaps simply through lack of time. This is a matter of great concern when discussing passive EEW, since if tenants cannot recover the cost of EEW at lease end, there is no incentive whatsoever for them to carry out such EEW during the lease.

Section 1 is in turn dependent upon s.3 of the 1927 Landlord and Tenant Act, since compensation can only be obtained under s.1 where the landlord's consent was validly obtained for the improvements carried out originally under s.3. The concept of an improvement is

[74] S.1 of the Landlord and Tenant Act 1927.
[75] Law Commission, *Landlord and Tenant Law: Compensation for Tenants' Improvements* (Law Com No 178, 1989) para 3.23.
[76] Shelton *Dilapidations* (n.25) 94.
[77] Law Commission, *Compensation for Tenants' Improvements* (n.75) para 3.5.

determined by what is viewed as an improvement through the tenant's eyes[78] and so, where EEW are to reduce CO_2 emissions, technically at present the tenant ought to be able to obtain compensation for their works. The question for the purposes of this thesis is whether EEW are improvements at all (from either landlord's or tenant's perspective). One could argue that they are not, since for most commercial tenants the matter of whether they are using a property that has a low carbon footprint or a high footprint, does not really affect their business interests. Although they may gain some advantage in reduced energy costs over the duration of their lease, this will take some time to manifest, possibly several years, and as discussed in Chapter Two[79] it is not easy to predict how much money a tenant will save. In the context of improvements, even the Law Commission has previously rejected amortisation schemes for a similar reason, i.e., being too complicated to be workable.[80]

Within the context of s.3 of the 1927 Act, a landlord is deemed to give permission to improvements if, within three months of the tenant requesting permission, the landlord does nothing (or of course agrees).[81] The documents for such a request can include not only a formal notice, but also plans, details and even request for consent by letter. These do not necessarily have to be served contemporaneously, but the three months runs from the date when the latest is received by the landlord.[82] The total of eight separate steps mean that the Law Commission

[78] *Lambert v Woolworth & Company* [1938] Ch 883 in M Shelton, *A Practical Guide to Landlord's Consent and variation of Leases* (Law Brief Publishing 2018) 21.
[79] See para 2.4.
[80] See Law Commission, *Working Paper: Tenants' improvements* (n.71) para 6.30.
[81] Note that by s.3(1) of the 1927 Act, the landlord can still refuse permission if, *inter alia*, the works are not "suitable for the character of the holding".
[82] Law Commission, *Working Paper: Tenants' improvements* (n.71) para 2.23.

found this procedure to be "inherently wasteful and cumbersome",[83] a conclusion similar to that arrived at by other commentators.[84] Haley summarizes the procedure as follows:

> The major weaknesses of the existing compensation provisions concern the inherently wasteful, complicated and cumbersome nature of the claims procedure; the unrealistic manner in which compensation is calculated; and the ease by which landlords can circumvent the scheme.[85]

Taken together with the evidential difficulty of proving both the costs of the improvements and also the amount being claimed from the landlord,[86] it does suggest that the procedures for obtaining the tenant's consent are presently ineffective, even prior to considering EEW.

Importantly, although these compensation requirements cannot be contracted out of at the start of the lease, it does seem possible for both parties to agree a sum in lieu of compensation.[87] Given this option, it seems that it would be possible for a landlord and tenant to agree at the start of their lease that a fair payment could be agreed in lieu of EEW to be carried out at the end of the lease. Perhaps this could be done in much the same way as it is common for both parties in a building contract to agree a liquidated sum which covers their expected loss or (as above) for the parties to allocate responsibility for pollution under Part IIA of the Environmental Protection Act.[88] However, how such amounts could be calculated for EEW at lease end is not easy to guess. There are other anomalies with the present system too, which Shelton refers to, since in the case of a subletting of part and when surrendering a lease, for example, the tenant's

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[83] Law Commission, *Compensation for Tenants' Improvements* (n.77) para 3.8. See also the Commission's Working Paper (n.71) para 2.35 which related the many stages of such a claim, although that paper suggested retaining and reforming the compensation provisions (para 3.13) even though the compensation bore no relationship to the tenant's actual loss (para 4.4). The Commission's subsequent full report (n.77) simply recommended abolishing the compensation provisions in their entirety (para 3.23), although not the requirement for tenants to obtain consent.

[84] R Hewitson, *Business Tenancies* (Cavendish 2005) 252 provides a flow-chart outlining the 9 separate steps required for a business tenant to obtain consent for improvements and compensation.

[85] M Haley, 'Compensation for Tenants' Improvements: A Valediction' (1991) 11 Legal Stud 119, 122.

[86] Woodfall: Landlord and Tenant vol 2, para 22.209 (Issue 3, 2021).

[87] Ibid para 22.215.

[88] See para 1.5.

position remains uncertain too.[89] Indeed, the British Property Federation's enquiries upon surrender now contain an express query about the works that have previously been carried out for this very reason.[90] In contrast, it should be noted that the voluntary alterations protocol does not at present require any reference to EEW which are intended to be carried out.[91]

Distinguishing repairs from renewal

When considering the difference between repair and renewal, and the difference between repair and improvement, the former is of less relevance in energy efficiency matters. This is because renewal has been defined as "reconstruction of the entirety … [or] …substantially the whole subject-matter under discussions".[92] Given the emphasis on passive refurbishment in this work, it is very difficult to imagine entire walls, floors or ceilings needing to be replaced or renewed in such a way as to require most of them being replaced. Additionally, if such large-scale replacement were to be necessary, it is still required to be only to the standard of repair at the start of the lease;[93] i.e. not an improvement as such (discussed below). Consequently, the provisions in the 1927 Act which are phrased in terms of improvements and compensation would not be of relevance for those larger repairs which are only renewals.

Distinguishing repairs from improvements

Presently, and subject to the many concerns outlined here, the law does provide a remedy for recovery of the cost of works in the situation where a tenant has carried out works which are deemed to be *improvements*, and not merely repairs. Ascertaining which are improvements and which are repairs is a matter which already requires some fine distinctions to be made. For example, Pawlowski points out that the standard of works carried out on an air conditioning

[89] Shelton *Landlords' consent* (n.78) 92.
[90] See the British Property Federation, *Commercial Property Standard Enquiries 5 (version 3.3) Enquiries before surrender of a commercial rack rent commercial lease*, enquiry 7.1.
[91] https://www.propertyprotocols.co.uk/the-alterations-protocol Accessed 5th February 2022.
[92] Per Buckley LJ in *Lurcott v Wakeley* [1911] 1KB 905 at 924 as cited in Woodfall: Landlord and Tenant Vol 1 Part 2 Chapter 13 at 13.036.
[93] *Anstruther-Gough-Calthorp v McOscar and another* [1924] 1 KB 716.

system "had to be such as the tenants, given the length of their leases, could fairly be expected to pay for"[94] according to *Fluor Daniels*[95] (rejecting the alternative suggestions that had been made in *Plough Investments v Manchester City Council*).[96] Pawlowski further mentions[97] cases such as *Ultraworth*[98] which also concerned an HVAC system, where it was held sufficient that the tenant (whose liability it was to repair the HVAC system) should merely recondition it, and not replace it entirely.[99] The decision in *Ultraworth*, however, is dated several years before any energy efficiency legislation, and so it is not certain whether, if the building as a whole would have been in breach of energy legislation, the same decision would be reached today.

These are often fine distinctions which it is difficult to draw in practice, and it will become even harder to separate out such niceties when examined in the context of EEW and the physical aspects of heat loss. This is because, as stated in Chapter Two, it is perfectly possible for a tenant of one-half of a building upstairs to carry out EEW, but if their counterpart tenant downstairs has done little or nothing those works would be largely ineffective.

Recovery of the cost of the tenant's works at lease end

Addressing the topic of passive EEW, there are more concerns with the present system than the obvious problems of time and effort mentioned above. If, for example, a tenant has undertaken energy refurbishment works which have been very effective, and that property is subsequently awarded a higher EPC grade thus enabling their landlord to let it out for a higher rent, there is no possibility of any extra payment being paid to the original tenant who did the works. The principle was outlined in *British Westinghouse Turbine*[100] that a party to a contract could not recover damages where they had profited from the breach. This principle still stands,

[94] M Pawlowski, 'Patch it or replace it?' (2018) 22(4) L&T Rev 133.
[95] *Fluor Daniel Properties Limited v Shortlands Investment Ltd* [2001] 2 EGLR 103
[96] *Plough Investments v Manchester City Council* 1 EGLR 244 in Pawlowski (n.94) 134.
[97] Ibid 135.
[98] *Ultraworth v General Accident Fire and Life* [2000] L&TR 495.
[99] Pawlowski (n.94) 135.
[100] *British Westinghouse Turbine v Underground Electric Railway* [1912] UKHL 617 at 620.

although this was not a landlord and tenant case.[101] Applying that argument to passive energy refurbishment works, it is suggested that, even if the tenant's EEW produced a substantial profit for the landlord, the outgoing tenant would be unable to recover any more than the cost of carrying out EEW. Such arguments may seem a little fanciful at the time of writing where, emerging from a pandemic, it is hard to imagine a day soon when commercial rents will increase. However, as shown, there is already a small increase in rental value in buildings which have undergone a "deep" retrofit[102] and, if the Government's proposed plans for buildings in England and Wales to have a minimum grade of a C or B are implemented, one can well imagine a situation where the first buildings that do comply with this requirement could attract a significantly higher rent. At present, unless the landlord were feeling altruistic, there would simply be no sharing of this windfall value with an outgoing tenant who had carried out the EEW just a couple of years before.

4.5 Sidestepping the tenant's right to compensation

There is, in practice, a very easy way to avoid the impact of s.3 of the 1927 Act, which is for the landlord to include yielding up covenants in the lease requiring the tenant to put the property back in the same standard of repair at lease end as when they took it. Such clauses are very common,[103] and where they are included, a landlord can argue that this requirement to hand back the premises in the same state means there should be no compensation for tenant's improvements at all. Recently, codes such as the Green Lease Toolkit have begun to discourage these requirements to reinstate at lease end,[104] suggesting instead suitable clauses for use in the environmental memorandum of understanding between the landlord and tenant[105] or even

[101] Ibid 620. Lord Haldane's judgement in *British Westinghouse* did refer to *Joyner v Weeks*, but he held that that rule was a rule of convenience.
[102] See para 2.4.
[103] Law Commission *Tenants' improvements* (n.77) para 3.12.
[104] The Better Buildings Partnership, *The Green Lease Toolkit* (London, 2013) 11. https://www.betterbuildingspartnership.co.uk/sites/default/files/media/attachment/bbp-gltk-2013_0.pdf. Accessed 4th Feb 2022.
[105] Ibid 29.

a binding clause for use in the lease itself.[106] However, since use of this Toolkit is purely voluntary, it is still perfectly possible for landlords to force reinstatement clauses on their tenants. Furthermore, the suggestions in the Toolkit are phrased only in a negative manner; whilst they prohibit further, and presumably unnecessary, works being required of tenants at lease termination, they do not actually impose any positive duty to carry out EEW.

There are emergent schemes which are attempting to resolve the balance, such as a green dilapidations service mentioned in a recent RICS[107] journal.[108] However, on closer examination, such schemes appear to be mainly concerned with using recycled materials to put the demised property back into the condition that the landlord had requested at lease end and are not focussed upon providing a low-carbon environment for the next tenant's energy use. That scheme suggests that a small part of the tenant's demise can be fitted out to show what the new unit could look like for marketing purposes, and if the new incoming tenant wants the rest of the unit refurbished and decorated, the costs would form the part of the dilapidations claim (by the landlord) against the outgoing tenant. Whilst this is an innovative idea, it will clearly not work for smaller properties which cannot afford to refurbish just one part in this way.

Even the RICS Code for leases does not provide much assistance, as its suggested draft heads of terms merely gives landlords and tenants the option to tick a box deciding whether to reinstate at lease end,[109] without any further explanation. As such, particularly if a tenant is not legally represented, it is very easy for them to simply tick the box, which after all is contained in a document that states it is trying to improve the "quality and fairness" of lease negotiations,[110]

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[106] Ibid 24.
[107] The Royal Institute of Chartered Surveyors.
[108] J Rowling, 'Can dilapidations achieve net-zero carbon?' RICS: Built Environment Journal (2021) https://ww3.rics.org/uk/en/journals/built-environment-journal/can-dilapidations-achieve-net-zero-carbon-.html Accessed 29th December 2021.
[109] Royal Institute of Chartered Surveyors: Code for leasing business premises England and Wales (1st ed 2020). 14. https://www.rics.org/globalassets/code-for-leasing-premises-in-england-and-wales_-1st-edition_january-2022.pdf Accessed 4th February 2022.
[110] Ibid 3.

and so not to realise what they will be agreeing to in the new lease will be environmentally unhelpful at the end of the lease in several years' time. In summary, therefore, for the Green Lease Toolkit, and the green dilapidations service and the RICS Code, the schemes may be a good start, but they are not benchmarked to specifically measure or reduce carbon use.

The Law Commission's 1989 Report does seem to regard the 1954 Act's security of tenure as a cure all for lack of compensation for improvements even if, as that report recommended,[111] the compensation provisions were withdrawn. Para 3.6 says that the position of compensation was "radically altered" by Part II, and that now most business tenants will continue to have security of tenure.[112] Similar thoughts were expressed in its earlier Working Paper, which stated that "now that security of tenure is the norm, it is an encouragement to tenants to make more lasting improvements".[113] The Commission recommended that the same rule should apply to tenant's compensation as already applied to rental values in renewal leases, namely compensation should be awarded provided that the tenant had not quit the tenancy and then returned, and subject to a maximum age for the works of 21 years.[114] Given the fact that so many business tenancies are contracted out these days, with this author's experience of 40% to 50% of new tenancies being contracted out, the Commission's belief that security of tenure is an effective antidote to poor compensation provisions appears optimistic.

Limits on the tenant's compensation

One aspect of s.1 which has received little commentary from contemporary writers, perhaps because of the negligible use of Part 1 in practice, is the limit on compensation received by the tenant. By s.1(1)(a) of the 1927 Act, a tenant can only receive the lesser of either the amount

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[111] Law Commission *Tenants' Improvements* (n.77) para 3.23.
[112] Ibid para 3.6. See also the Working Party's report, *Compensation for Tenant's Improvements* (n.71) para 1.11 which refers to an "almost universal" security of tenure system for business tenancies.
[113] Law Commission *Compensation for Tenant's Improvements* (n.71) para 6.26.
[114] These provisions are contained in s.34(2)(c) and s.34(2)(a) respectively of the 1954 Landlord and Tenant Act, as amended by the Law of Property Act 1969 s.15 and Schedule 1.

of carrying out the works, or the increase in the value of the landlord's reversion.[115] In other words, if passive works on the right-hand hypothetical building[116] are carried out by the tenant, costing £50,000 to improve the energy efficiency of the building, but the deemed increase of the value of the landlord's reversion is merely £10,000, that £10,000 is all the tenant will be entitled to. There is an important caveat contained in s.1(1)(b) in that those covenants which were *already* contained in the lease under the tenant's obligations to repair are not included, but that caveat only applies where a tenant has not kept its property in good repair.[117] The Law Commission's final report in 1989 contained sparse comment on this cap, but one observation it made was that, since most improvements were short-term, tenants often did not bother seeking compensation for them at lease end.[118] It is submitted that, for passive works particularly, where substantial changes are made to a building such as insulation, air-tightness measures and thermal bridge reducing, such a short-term approach cannot be viable in the future. The present cap on value of improvements to be repaid is a subsection which not only seems unfair on the tenant, but will also cause confusion in future with EEW, where only part of the EEW are deemed to be repairs due to the doctrine of supersession, but the other part deemed improvements.

Other than suggesting this provision should be removed or, for example, allowing an additional value above the landlord's increase in reversionary value to be paid to the tenant of 20%, the point will not be further discussed here since these are mainly matters of commercial valuation. Nevertheless, as it stands, s.1(1) remains a strong disincentive for tenants who carry out passive EEW during their lease at their own expense and then seek to recover the cost of those energy improvements at lease end from their landlord.

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[115] Woodfall: Landlord and Tenant vol 2, para 22.211 (Issue 3, 2021); see also *National Electric Theatres v Hudgell* [1939] Ch 553.
[116] See para 2.8.
[117] Ibid para 22.211.1.
[118] Law Commission, *Compensation for Tenants' Improvements* (n.77) para 3.13.

4.6 Conclusions

There is a sense in which the MEES regulations will inevitably make a bad situation worse when it comes to tenants obtaining compensation for improvements when they yield up their leases, or in landlords being able to recover dilapidations costs from their tenant. This is because as the existing law relating to repairs and improvements is already complex and uncertain, if landlords and tenants must soon factor in EPC grades, the possibility for uncertainty (and litigation) will be much increased. This is the reason why time has been spent in this Chapter looking at the various statutes that at present theoretically cover these situations.

In the case of landlords who are approaching the end of the lease, their ability to receive compensation for EEW is presently very limited in the absence of an express term in the lease requiring the tenant to do these works. EEW are not, by themselves, usually repairs, although the position remains uncertain. Moreover, even if a term requiring EEW to be undertaken were to be implied into business leases, the landlord's ability to receive compensation would be restricted somewhat arbitrarily by s.18 as it now stands, with some works being capped by s.18 but others not being capped.

Although tenants can, in theory, get compensation at the end of the lease for energy efficiency improvements which they have carried out, the method of obtaining it is extremely cumbersome. The complex procedures for tenants to follow in asking for consent to do improvements initially and recovering the costs at lease end, taken together with the limits on compensation under s.1(1)(a) and – particularly when considered with the ease with which landlords can use yielding up clauses to evade these costs – does not bode well for virtuous tenants seeking to make passive energy improvements and recover costs.

Finally, the ambivalent nature of EEW, at times both spanning improvements and repairs, make it difficult to analyse where, and how, either landlord or tenant might recover the costs of carrying out such works. That is particularly so in the context of passive works which by their

very nature are related to a building's structure. The Law Commission's comments that there are "serious shortcomings in the law which governs the repair and maintenance of leasehold property" seem apposite,[119] and Dowding and Reynolds[120] also point out that a subsequent decision by the Supreme Court[121] would not have changed the Commission's findings.[122] These are strong words from both the Law Commission and from experts in dilapidations. If this is the already confusing situation when discussing ordinary repairs to buildings, the forthcoming need to carry out EEW improvement will confuse matters even more. Additionally, security of tenure for business tenancies has not replaced the need for compensation and the Law Commission's apparent lack of concern in this regard is disconcerting.

Particularly when refurbishing non-homogeneous buildings, such as those considered in the fictional example,[123] a bespoke solution may have to be negotiated between landlord and tenant, and the negotiations for a renewal lease under Part II seems an excellent opportunity for that to happen. It is to those matters that we turn in the final substantive chapter, where we consider the likely terms to be inserted into an energy efficient renewal lease.

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[119] Law Commission Report, *Landlord and Tenant: Responsibility for state and condition of property*. (Law Com No 238, 1996) para 1.5.
[120] Dowding (n.9) 1022.
[121] *Southwark Borough Council v Mills* [2001] 1 AC 1.
[122] Dowding (n.9) 1022.
[123] See para 2.8.

5 CHAPTER FIVE: The Climate Friendly Renewal Lease

5.1 Introduction

It will be recalled that the Landlord and Tenant Act 1954 moved from the principle of compensating a business tenant for having to move on at the end of their tenancy, to such tenants receiving a renewed lease on approximately the same terms. This change was expressly celebrated in Parliament during discussions about the Act by the Solicitor General's comments that, "a business tenant will have his security of tenure no matter for what period his lease may be".[1] If, as shown previously, there are difficulties in implying a wholescale covenant for one party to make the building energy efficient, and if it will also be difficult for either landlord or tenant to recover the cost of such works which have been done, [2] the time of renewal of the lease seems an excellent opportunity for both parties to rework the old lease provisions. By doing this, the new lease could enable the energy efficiency works (EEW) to be carried out (perhaps over time) in a manner that suits both parties.

If the renewed lease is to both reflect the previous lease, but at the same time be modernised, the question of whether an implied term should be read into every lease that is renewed becomes inseparable from the question of what the other terms of the new lease should be.[3] Even without considering energy efficiency implications, only "sketchy" guidance[4] is given on the matter of what should be imported into the renewal lease, and so the way that a carbon-friendly lease could be agreed between the parties, or imposed by a court, will need even more careful consideration. This is the purpose of this final substantive chapter where

[1] HC Deb 30th April 1953, Vol 514, Col 2488. See also Mr Skeffington's comments in that debate that he was "glad that some degree of permanency of tenure will now be available for business premises"; vol 514, col 2426.
[2] In the absence of any *express* provision regarding such works to be carried out.
[3] The discussions in Chapter Three regarding possible implied terms will not be repeated here.
[4] M Haley, *Renewal of Business Tenancies* (2nd edn, Law Society Publishing 2013) 248.

each of the four statutory sections regarding the rent,[5] the property extent or holding,[6] the lease length[7] and any other terms[8] will be considered in turn. These four sections are analysed as they are presently for energy efficiency issues, then possible amendments are discussed briefly. Finally, several other issues such as break clauses and taking only part of (or extending) the holding will be discussed in context.

5.2 Changing the holding extent: S.32

Section 32 allows the court to grant a new tenancy of the holding, the latter being defined in s.23(3). The tenant must be in occupation of the area and, if it is not trading or carrying out business activities as defined elsewhere in Part II,[9] no renewal rights can be exercised. This means that, where the tenant has itself sublet part of the premises, only those parts that are still used by the tenant may be included in the new lease.[10]

Mixed use buildings: residential space above commercial space

At present, therefore, the legislation allows tenants to recover only the area of the demise which they are occupying for business purposes. The only exception is where a landlord may require the tenant to take the whole of the part originally demised.[11] The question arises whether section 32(2) should be amended so as to allow the landlord to force tenants to take a lease of not just the holding on the one hand, nor the whole of the premises originally demised on the other, but of an area in-between. One can foresee situations where an EPC has been issued for a particular building (or part of the building), but that area covered by the EPC does not coincide with the new demise to be granted to a tenant under Part II. Indeed, one can also

[5] S.34 Landlord and Tenant Act 1954.
[6] Ibid s.32.
[7] Ibid s.33.
[8] Ibid s.35.
[9] Ibid s.23(1) and s.23(2), not discussed further here.
[10] Haley (n.4) 27.
[11] S.32(2) Landlord and Tenant Act 1954.

imagine situations where the landlord may wish to lease back *more than* the area occupied for business purposes in addition to the actual holding.

For example, in the imaginary model introduced previously,[12] there is only one EPC covering the whole of the right-hand property, since this flat can be accessed only through the shop below.[13] At present, assuming that the tenant is entitled to take another 10-year lease, there are only two options. Either the tenant can take a lease of the ground floor, or the landlord can forcibly require him to take the entire area originally demised which in the worked example was the shop, first floor office and flat. However, there is no statutory right to allow the freeholder to offer only a lease of the ground floor and first floor (i.e. excluding the flat on the second floor).[14] This could cause problems if the right-hand building is to have the sorts of substantial energy refurbishments envisaged in Chapter Two, but in such a way that the top floor flat will have its own energy system.[15] In those circumstances, the landlord may very well wish to have the flat (only) demised separately from the floors below it. However, he has no statutory right at the moment under Part II to request this. Assuming the tenant does want a new lease, under s.32(2) all the landlords can require is for their tenant to take a lease of either the ground floor or of the entire right-hand building. What the landlord cannot do is force the tenant to take two-thirds of the building. Prior to energy efficiency considerations, this would not have been problematic, but in some circumstances now where EEW are to be carried out it may become a concern.

A similar, but different, situation is shown by the left-hand building in the worked example where, it will be recalled, the flat above the shop is accessed only via its own separate entrance. Accordingly, the left-hand flat will be required to have an individual EPC entirely separate from

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[12] Chapter Two para 2.8.
[13] See para 2.3 which details the different scenarios recommended by government guidance.
[14] The parties can certainly agree this voluntarily, but the landlord cannot force the tenant to take two-thirds.
[15] It is assumed for the purposes of this situation that the flat could, for example, have a solar heating and power system installed of such effectiveness that the flat itself could be carbon neutral.

the commercial premises below.[16] However, under the 1954 Act the landlord still has only two choices, since the same two options apply.

Such situations as described in the fictitious example only serve to illustrate the anomalies and the practical questions which the MEES regime will reveal upon business lease renewals. It is submitted that, increasingly, these will not be rare situations, since the Government's intention is to help convert the many business properties with residential accommodation above into homes.[17] As stated previously, the UK's commercial property stock is not homogeneous in the same way that, for example, the Australian stock is.[18] This confusion is not helped by the differing EPC methodologies presently used for business properties and residential properties.[19]

Anomalies caused by the position or orientation of the building

The arguments above can apply to both active heating systems and passive ones. However, different questions arise where there are buildings which, owing to their construction or location, mean that a passive system of heating, say through solar power during the day, will work well for one area of the building, but poorly for another area. For example, consider the situation where a building has a sunny south-facing façade, but some tenants have offices or shops on the opposite side (north) only. Assuming they have permission in their leases to do so, the south-facing tenants could install EEW making their parts of the building carbon neutral, but leaving the north-facing tenants literally in the dark. In this scenario, for technical or economic and energy reasons it is arguably much better that the landlord has power firstly, to prevent individual tenants from carrying out such works themselves and secondly, to choose to do such works centrally as a landlord in order that the refurbished building as a whole can be fully or

[16] For simplicity the NABERS scheme is not considered here.
[17] A Morby, 'Boris clears planning red tape on change of use to housing' Construction Enquirer 30th June 2020. https://www.constructionenquirer.com/2020/06/30/boris-clears-planning-red-tape-on-change-of-use-to-housing/ Accessed 7th March 2022.
[18] See Chapter One (1.6).
[19] Ibid.

largely carbon neutral. The point will not be explored further for reasons of space, but it will be appreciated that there is presently no power for a landlord to insist upon this when all the various leases expire. [20]

Varying the dimensions of the tenant's holding

Further problems arise when the holding area needs to be amended for structural reasons. An illustration is provided by thermal bridges, where it is necessary to eliminate further heat loss from the building, but either the landlord or tenant maintains the particular part of the building in question. Foam or capping materials may be inserted, but these are, as shown in Chapter Two,[21] often at the boundaries separating the areas for which the landlord and tenant have control. There is a practical issue here in that, if a landlord covenants to retain and maintain only the structure,[22] the tenant will have demised the non-structural parts in the property. If extra capping is required for steel girders, the holding area under the old lease may have to be decreased, albeit very slightly, so that the physical incorporation of the capping or similar materials is included within the landlord's retained part of the premises. This could be problematic since, firstly, one party to the lease may not actually have rights over the space in question but still needs to extend a wall slightly to make insulation or capping measures more effective. Secondly, problems may arise if the capping itself develops defects in a few years, and yet it was never agreed in the renewed lease who should repair the capping.

5.3 Increasing the lease term: s.33

Recent case law has shown a tendency to buck the trend of "market length terms", that is, judges have shown an inclination in some instances to allow a term that is longer than that

[20] It is here assumed that the leases are all to be renewed at about the same time, which is admittedly unlikely.
[21] See para 2.6.
[22] This is very common in multi-let buildings which are of a uniform construction since the landlord will wish to maintain the structure and services itself.

contended for by the tenant. Dellah Gilbert[23] cites the case of *Dukeminster*[24] which shows that "the market norm" – of ten years – was awarded recently for a renewal lease replacing a previous lease of 51 years, with the tenant requesting just 5 years. Gilbert describes this as unusually long in today's climate, and suggests that the "landlord should not be so ready to accept the tenant's request for a five-year term, but should instead put [the tenant] to proof that it is necessary for their business interests".[25] There is, then, already a suggestion that it is the tenant's business interests that are beginning to prevail in fixing the term length, even though landlord's investment interests must also be considered by the courts. When asking a court or arbiter to grant a longer lease, the landlord may ask for particular factors to be taken into account. In the *Dukeminster* case, for example, the landlord was able to succeed since these were unusual properties of "prestige" status in central London.[26]

However, turning again to the situation where substantial energy refitting works are to be undertaken, it must be questioned whether Part II, as it now stands, is sufficient to help both landlord and tenant reach a satisfactorily negotiated renewal lease. The Act already gives very little guidance on term length and, whilst market forces in recent years have produced a much shorter lease length upon renewal than previously,[27] the courts have a duty to weigh the needs of both parties on renewal. Nevertheless, they do not have the ability to consider the environment as a relevant factor. Lease length is of particular importance in the context of properties undergoing passive refurbishment works, since the timescales for these refurbishments to pay for themselves may be long and the works may typically be more expensive, so that landlords and their funders will generally wish for longer leases. If the Government is right and the average time for energy efficiency improvements to pay for

[23] D Gilbert, 'Getting back to business: Part 2 of the Landlord and Tenant Act 1954: Part 1' (2019) 23(5) L&T Rev 171, 173.
[24] *Dukeminster v West End Investments (Cowell Group Ltd)* [2016] L&TR 4 Central London County Court.
[25] Gilbert (n.23) 173.
[26] Gilbert (n.23) 172.
[27] S Highmore 'Code of Practice for Leasing Business Premises' (2020) 24(5) L&T Rev 169.

themselves financially is a mere 7 years[28] then given the average lease length of 7 years currently,[29] there is little problem. According to Jones, most Toronto retrofits needed a payback time of 5 to 10 years[30] and, although that study is now nearly a decade old and not UK-based, it does illustrate the difficulty inherent for funders and landlords who require a long enough lease term to reassure them that the necessary passive works will be completed whilst the tenant is paying rent.[31] Such logic has traditionally extended to the tenants as well (if they are to carry out any sort of works) since Haley advises that tenants will usually only invest in improvements provided that they will pay for themselves over the term of the tenancy.[32] Haley's article was approximately 30 years ago, but the current situation would cause even more concern now, given both the shorter nature of business tenancies and the recent propensity for break clauses to be included in a lease.[33] Hence the provisions of s.33[34] could become of great importance strategically to the UK economy in allowing the capital cost of EEW to be spread over a longer lease term, with at least a more modest initial rent increase.

Arguments for such a power already existing

If, contrary to what has been argued above, an inherent power to grant longer lease terms where required for EEW is already enjoyed by the courts, there would still be weaknesses and concerns arising from the exercise of such a power. Firstly, it is not clear whether any power of the court to award a longer lease could accurately be described as a business need. Whilst the

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[28] See para 1.6.

[29] Property Industry Alliance, *Property Data Report 2017* (British Property Federation and Property Industry Alliance, 2017) 11.

[30] A Jones, 'Investigating Deep Retrofits for Toronto's Financial District Office Towers' (2013) 5(1) The Journal of Sustainable Real Estate, 206, 218.

[31] Department for Business, Energy and Industrial Strategy, *The non-domestic private rented sector minimum energy efficiency standards: The future trajectory to 2030* (2019) 36 which highlights the "length of time [to] seek a return on [landlord's] investment[s]" as being a relevant criterion.

[32] M Haley, 'Compensation for Tenants' Improvements: A Valediction' (1991) 11 Legal Stud 119, 127; which in turn comments on the conclusions reached by the Law Commission's Report, *Landlord and Tenant Law: Compensation for Tenants' Improvements* (Law Com No 178, 1989).

[33] K Mason, 'Break clauses should be handled with care' Royal institute of Chartered Surveyors Property Journal 29th November 2021 <https://ww3.rics.org/uk/en/journals/property-journal/break-clauses-should-be-handled-with-care.html> Accessed 11th February 2023.

[34] S.33 of the Landlord and Tenant Act 1954.

MEES regulations simply make it unlawful for landlords to rent out business premises without at least a minimum grade of energy certificate (an E at present), that does not, in itself, render it impossible for a landlord to rent their premises out.[35]

Secondly, in order to know whether the financial payback period will be long enough, one has to know the approximate cost of the works to be carried out. However, at the moment, the law is not known, and it is difficult to guess whether there will be a minimum B or C standard (or even perhaps an A, or a D) in 2030. As has been shown, the EPC scheme is of limited accuracy for lower grades especially.[36] Accordingly, for both landlord and tenant to factor in the cost of works, obtain quotes, and then ensure that the works can be financed over the duration of a particular lease term will be no easy feat.[37] Furthermore, if those works entail unforeseen consequences, with protracted additional works involved, then even obtaining an ostensibly simple quote could itself take many months, which would be yet another time constraint to add into the renewal process under Part II.

Thirdly, the grade boundaries for EPCs are themselves shifting,[38] so what would have attained a grade E ten years ago is now likely to receive a lower grade. If that pattern of grade "deflation" continues for the next decade, it will become even harder for both landlord and tenant to plan for significant refurbishment which is to be targeted to a particular grade in the EPC system. This is particularly relevant in the context of passive measures, which usually entail significant works to the building in terms of insulation and heat absorbing panels etc. In these

[35] Additionally, if another system such as NABERS is introduced, which would not prevent the premises being let out even with a poor star rating, it will be even more difficult to argue that giving a longer lease is a business need.
[36] Chapter Two (2.3).
[37] Curiously, the building regulations for extensions/refurbishments suggest that measures with a "simple payback" will be economically feasible in under 15 years – the same time as the maximum lease granted by a court under Part II. HM Government, *The Building Regulations L2B – Conservation of Fuel and Power in Existing Buildings other than Dwellings*, *2010 edition incorporating 2010, 2011, 2013 and 2016 amendments* 22.
[38] Chapter Two (2.3) and see particularly J Crawley and others, 'Quantifying the measurement error on England and Wales EPC rating' (2019) 12 Energies 3523.

cases, as shown in Chapter Two, it is difficult for laypeople (in energy terms) to know whether the EEW have been carried out properly, since the present system relies on notional buildings and notional figures in tables for U-values and the like. In such cases, it will be almost impossible for tenants to know either that their expected heating bills will be reduced by a particular amount or that the EEW were of sufficiently good quality so that their increased rent under the new lease is genuinely helping the planet. Once again, the lack of reliability of the EPC system in particular, and possibly the NABERs system as well, cannot give sufficient confidence to either landlord or tenant that the costs of works under the new lease will be paid for after, say, three years, five years, or eight years. In the absence of reliable data, both for the financial cost and the environmental benefits, it is therefore very difficult to see how any court could arrive at a fair renewal lease of a sufficient length enabling landlords to recover their costs of passive works, but which is not unduly long for a tenant.

Fourthly, there are evidential difficulties looming if undertakings are accepted by a court over the long term. One can easily imagine situations where a landlord genuinely believes by 2030, it can attain a B grade at a cost of (say) £100,000 over the ten years in-between 2020 and 2030. However, if the landlord persuades the court to grant a ten-year lease to the tenant on that basis, but these works then take far longer and cost much more,[39] in a multi-let building the tenant will be paying for that increase via their service charge. Perhaps (it may be argued) at the time of deciding what the renewal lease should contain, an undertaking might be given by the landlord to the court to carry out EEW to a particular value and type. The difficulty here is that there are already problems with the shorter-term undertakings which are sometimes given by landlords for grounds (f) and (g),[40] with one concern being whether they should be given at,

[39] Perhaps it is helpful to assume that the initial quote had been produced for the landlord using "mates' rates" and was never realistically going to be an accurate quote.
[40] Under s.30(1) of the Landlord and Tenant Act 1954, those grounds are for: ground f) redevelopment and ground g) occupation by the landlord respectively.

or just after, the end of the (continuation) tenancy.[41] These undertakings may need policing, with it being possible for the tenant to visit the site and check that works are being commenced.[42] If similar undertakings were to be used for larger energy efficiency projects, they may well have to be given for a couple of years, not just a few months. If the landlord did not keep its promise, it would be very difficult for courts to re-open a case, say, four years later where an aggrieved tenant claims that the promised EEW have never been done or were done but cost too much, or were carried out in an unworkmanlike manner. There is of course no reason that the court cannot ask for evidence of these quotes, consider the validity of the evidence and based on the quotes, award compensation to the tenant, or even imprison landlords for contempt of court for breach of undertakings,[43] but it is still difficult to envisage how successfully such matters could be litigated by an aggrieved tenant several years into the renewal lease.

Fifthly and finally, other practical difficulties might involve work intended to be done on the interior of listed buildings, in conservation areas or in buildings where the existence of asbestos or other contaminants is suspected. All these matters would be likely to significantly increase the costs of the EEW and yet the extent of such extra costs will often be unknown at the date of a renewal hearing under Part II. In many ways, the expected energy refurbishment costs associated with deep refurbishment works will have similar difficulties to the costs anticipated in a brand-new building, the only difference for our purposes being the fact that both parties have an ongoing relationship already and need the provisions of a renewal lease agreeing within some sort of practical timescale.

[41] W Clark, 'Undertakings, and date at which intention must be implemented – Part 3' (2020) L&T Rev 24(2) 42, 44.
[42] Ibid 43.
[43] Ibid.

Adding to the wording of s.33

Leaving aside the question of whether there is already a power for courts to award longer leases to help landlords obtain finance, the question is now asked whether Parliament should intervene and produce an extension to s.33 to facilitate this expressly. If Parliament did so, then a suggested form of wording could be as follows:

> S.33(2) When considering the length of the tenancy and what is reasonable in all the circumstances the court shall take into account any length of tenancy that will be required to carry out and to finance proposed EEW in accordance with the MEES Regulations.

Similar wording was used to amend Part II in the light of the Landlord and Tenant (Covenants) Act 1995, which allowed the courts to consider the rights granted by that Act.[44] By analogy, it is submitted that words on broadly the above terms could be added into s.33 to give courts the power to stipulate a longer lease, whether or not the tenant required it. At first sight, this seems an attractive and simple option, and there are certainly strong similarities between the changes made by the 1995 Act and the changes brought in by the MEES regulations.[45] The former changes were brought in to accompany a revision in the law allowing original tenants[46] and (provided their tenant did not object), landlords[47] to obtain release from the covenants in their leases upon assignment of the lease or reversion. Similarly, the latter MEES changes have been brought in by changes due to legislation. Some support for this view may be found in *Wallis Fashion v CGNU*[48] where Neuberger J commented that, "The 1995 Act represents a sea change in the law … not merely … a sea change in what had been common practice, but in what a landlord can lawfully require." It may be argued that such a sea-change might also apply to

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[44] S.34(4) of the Landlord and Tenant Act 1954, as inserted by the Landlord and Tenant (Covenants) Act 1995, s.30(1) and Sch. 1 para 3.
[45] Energy Efficiency (Private Rented Property) (England and Wales) Regulations SI 2015/962.
[46] The Landlord and Tenant (Covenants) Act 1995 s.5.
[47] Ibid s.8.
[48] *Wallis Fashion Group Limited v CGU Life Assurance Limited* [2001] 81 P & CR 393, 400.

the enactment of the MEES Regulations to justify courts using their discretion to extend the lease length upon renewal.

However, there are significant differences between the rationale of the 1995 Act and that of the MEES Regulations. Crucially, the latter Regulations do not merely impact the landlord and tenant relationship. Instead of being a variation that is leasehold specific and, therefore, only varying the relationship between the two parties,[49] the MEES changes have a far wider ambit. Ultimately, EEW, whether passive or not, are works undertaken purely to protect the environment, which is an entity that neither enjoys the protection of human rights law nor has *locus standi*. If the proposed s.33(2) were ever to be enacted, therefore, courts would need to balance the landlord's and tenant's requirements against the needs of an external third party, namely, the environment.[50] The Aarhus Convention is unlikely to assist in any such balancing exercise with its emphasis on public bodies[51] and, although Professor Lambert has recently suggested to the Council of Europe that "Nature should be granted legal personality," with the right to be represented and consulted on legislation,[52] there are concerns regarding costs and complexity if the same principle were to be applied to, for example, small shop renewals.

The tenant's power of veto

There is one final difficulty with courts having power to impose a longer lease on both parties, and one which would apply not only to an implicit power, but also to an express power, and which is contained within Part II itself. This is the tenant's ability to veto any new lease, so

[49] Neuberger's judgment expressly referred to striking a "fair balance" between landlord and tenant; ibid 402.
[50] See para 1.5 for a brief discussion of powers to enforce environmental laws generally.
[51] The Aarhus Convention (Convention for Access to Information, Public Participation in Decision Making and Access to Justice for Environmental Matters 1998) is still in force in the UK. This provides rights for provision of environmental information, and art. 9 enables the Convention to be enforced in the UK courts. However, art. 4 only requires the provision of such information by public bodies, not by private individuals.
[52] E Lambert, 'Introductory Report to the High-Level Conference "Environmental Protection and Human Rights", Strasbourg, 27th February 2020', Council of Europe 21. https://rm.coe.int/report-e-lambert-en/16809c827f. Accessed 17th March 2022.

if a tenant is awarded a 7-year lease but they wanted a 3-year lease, they do not have to take the new lease.[53] In this way, there is total power for the tenant to reject the new lease entirely arbitrarily, which may in turn reduce an arbitrator or a court's willingness to grant longer leases if it is considered that this would deter a tenant.

5.4 Rent and rent review: s.34

This subsection discusses firstly the existing position, then how matters might change when substantial EEW have been carried out, then finally it considers the possibility of differential rents, something that presently exists only in the context of interim rents.[54] Since rent and rent review are complex areas, and as much a commercial matter as a legal one, throughout this subsection only the main arguments will be overviewed.

The existing position: s.34(1) and the new rent after EEW have been done

The rent of the renewal lease is often both the issue of most concern to landlords and tenants, and also the last to be agreed in practice since it is only usually possible to obtain a final figure when all other aspects of the lease have been agreed.[55] In this way, the rent that is to be charged in the renewal lease will itself reflect the works that are going to be done after refurbishment. These principles have been tried and tested over many years, but can still cause some surprises where, as McElarney and Gascoigne comment,[56] the lack of express "disregard of free for fitting out purposes was seized upon" in s.34(1) in the relatively recent unreported cases of *Iceland Foods v Castlebrook Holdings* (2013) and *Britel Fund Trustees v B & Q plc* (2016).[57] Those cases, albeit themselves cast into doubt by a more recent judgment involving

[53] S.36(2) Landlord and Tenant Act 1954.
[54] Under s.24A–D of the Landlord and Tenant Act 1954, as inserted by the Regulatory Reform (Business Tenancies) (England and Wales) Order 2003 (S.I. 2003/3096) arts 1(3), 18, by which an application may be made for an interim rent to be fixed by the court during the renewal process.
[55] *Cardshops v Davies* [1971] 1 WLR 591 per Davies LJ at 596.
[56] L McElarney and I Gascoigne, 'Assume nothing?' (2021) 25(6) L&T Rev 233.
[57] Ibid. The second case and presumably the first are first instance decisions, since no citations are provided in the article.

Boots,[58] do highlight the existing uncertainty regarding fixing the rent on renewal. However, if existing judicial practice is prepared to accept arguments from silence regarding the assumptions and disregards in the present legislation, then it is possible that an equivalent argument by silence might be applied to EEW in the future. One issue that has been largely, but not fully, settled is whether to allow the tenant a reduction in rent due to the fact that on a new letting, three months' rent is often granted for what would have been the three-month period for fit-out. Gilbert highlights that five of the last six decisions reviewed have allowed this deduction,[59] which could well be relevant in assessing how courts might view a lease which is being renewed with a need for energy works to be carried out, particularly for intrusive works.

Varying the present rent review assumptions and disregards

S.34 provides various matters that must *not* be considered when setting the rent in the renewal tenancy. One of these disregards, i.e., tenants' improvements under s.34(1)(c), is described as "pre-eminent" by Reynolds and Clark.[60] When the tenant has already carried out those works over the course of the lease, that disregard normally allows the works not to be taken into account in the renewal lease when setting the rent, unless the works have been done in accordance with an obligation to the landlord. In this way, if a clause is put expressly in the lease so that the tenant (not the landlord) is responsible for carrying out environmental works, such works must be included in future rent reviews so that tenants will normally be paying more in rent. Crucially for tenants, statutory obligations are included, so that where a tenant carries out fire safety works under their lease this has been held to waive the disregard.[61] Thankfully for the tenant, most leases do not, presently, contain an express requirement for tenants to carry out EEW. Accordingly, unless legislation is passed implying a term requiring tenants to do

[58] Ibid. The transcript was finally produced in February 2022. *HPUT Trustee No 1 and No 2 Ltd v Boots UK Ltd* [*2021*] London Central CC (Unreported).
[59] D Gilbert, 'Getting back to business – Part 2 of the Landlord and Tenant Act 1954 – part 2' (2019) 23(6) 224, 226.
[60] K Reynolds and W Clark, *Renewal of Business Tenancies* (5th edn, Sweet & Maxwell 2016) 527.
[61] *Forte v General Accident Life Assurance* [1986] 2 EGLR 115, discussed in Reynolds and Clark ibid 532.

such works or there is an express term in the lease, tenants should not be required to pay for EEW they have carried out themselves by way of extra rent.

Since rent and service charge figures are usually shown in amounts per square meter, it should, in theory, be an easy task to ascertain from figures per square metre for CO_2 emissions in the EPC report or NABERS report what both the financial savings and the environmental savings are expected to be over the term of years of the proposed new lease.[62] This, however, would put more pressure on the energy assessor producing the initial report and, as previously stated, in the case of old buildings the capital costs of actual energy improvement work can be hard to ascertain without intrusive surveys. Nevertheless, the costs could be expressed in such a way that the expected annual rent will be £X per square meter, the expected heating savings £Y per square meter per year and the expected EEW will cost £Z_1 if spread over 5 years, but £Z_2 if financed instead over 10 years. These amounts (X, Y and Z_1 or Z_2) are all figures which landlords and tenants can easily compare when entering negotiations for any proposed renewal lease.[63]

Even if a clause were to be added into s.34 (a new "s.34(1)(e)") requiring EEW to be automatically factored into the discussions for new rent on renewal, there may be anomalies. This is because, as shown in Chapter One, whilst tenants are prepared to pay an increase in rent for "green" buildings, that increase is a very modest amount compared to the likely capital cost of carrying out such refurbishments.[64] Particularly within the present post-pandemic world where businesses are already suffering financially, it is suggested that large increases in rent are unlikely to be forthcoming in the next few years to fund such works without legislative intervention. This is a fact that will not be missed by banks and lenders, and which will not make them believe they can safely release finance for proposed energy refurbishments. The valuer will come to a figure for rent based upon the specific assumptions and disregards contained in

[62] The quantity known as the energy intensity, discussed in para 1.6.
[63] Whether or not the figures for savings are, themselves, accurate, which in turn depends upon the accuracy of EPCs, is a matter that was discussed earlier in this work. See Chapter Two (2.3).
[64] See para 1.3.

s.34(1) which enable the valuer to assume that the premises are in good repair and that there is a reasonable market for the premises. Conversely, the valuer can eliminate any value attributable to the tenant's own goodwill so that the tenant is not penalised for their own business success.[65] Where, however, substantial refurbishment works have been carried out, the question arises as to whether these works should also be valued upon future rent reviews. Such valuations would not be straightforward where both landlord and tenant have made different contributions to the cost of such works or, perhaps, have carried some of them out themselves.

Future rent reviews: s.34(3)

Even where the old lease does not already have a rent review clause, the court can now insert a clause of its own volition under s.34(3).[66] Since 1969 there has been express statutory provision to do so,[67] however, that statutory change now raises the question of to what extent those works may be incorporated into any future rent review. The matter of rent in the renewal process is already a contentious question and certainly the most frequently referred to arbitration. If the MEES regime is factored into what is already a complex situation, it will become even harder for any independent expert to arrive at a rent figure acceptable to both parties upon future rent reviews. The problem is not just agreeing the initial rent to be set in the renewed lease, but for longer leases agreeing the considerations (i.e., the assumptions and disregards) that will apply on the first and subsequent rent reviews. At present, upon most rent reviews, it will be recalled that the landlord and tenant will try to agree a fair figure, but in the absence of such agreement a rent valuer will endeavour to settle the matter of who will value the demised premises.

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[65] See s.34(1)(c).

[66] S.34(3) was inserted by the Law of Property Act 1969 Schedule 1.

[67] It was of some debate as to whether the old provisions of the common law allowed this, but in any event, statute now expressly provides so: Haley (n.4) 266.

Differential rents

Until now, differential rents in renewal leases have been used sparingly by the courts, and only for interim rents.[68] The typical scenario where they are used is where one party should have carried out repairs but did not: In those circumstances, a new lease can be granted with a reduced rent until the works are completed. Such was the case in *Fawke v Viscount Chelsea*,[69] where Brandon LJ held that, "the cases…support[ing] a differential rent … are likely … to be limited to cases in which the state of repair … is of a very serious character".[70] It seems that the condition of the property was a major factor in the decision, since Stephenson LJ, whilst concurring with both Brandon and Goff LJJ, mentioned that when Parliament had amended s.34 and enacted s.24A in 1969, it had simply "never considered the … impact of disrepair".[71]

However, it is submitted that there is no reason why a differential rent should not be utilised in future: not just for repairs, but for energy efficiency improvements; and not merely for interim rents, but for the main rent. Again, focussing on EPCs, for example, where it is envisaged that EEW are to be carried out over, say three years in order to raise a grade D to a B, the rent might be reduced initially (perhaps by use of a formula allowing 10% discount in rent for each band the premises still fall below this grade).[72] By so doing, landlords can be sure that the rent will revert to market rent once they have completed these works, but their tenant can also be sure that, for the first few years whilst those EEW are being done, the tenant will pay a lower rent.[73] Crucially, in *Fawke* Stephenson LJ stated that, even if the differential rent lasted for as long as two or three years, this would still be acceptable.[74] These comments were *obiter*, but the

[68] Haley (n.4) 178.
[69] *Fawke v Viscount Chelsea* [1980] 2 QB 441.
[70] Ibid 458.
[71] Ibid 459.
[72] This is on the basis that the landlord, and not the tenant, undertakes such works.
[73] One practical disadvantage is that, if the landlord's building is heavily mortgaged, such lower rent payments may not be welcomed by their lender, and in the long term this could lead to commercial lenders insisting on minimum rental values or otherwise trying to fetter the borrower's discretion.
[74] *Fawke* (n.69) 459.

timescale mentioned for interim rent of a few years is not entirely dissimilar to that required for EEW refurbishment.[75] Whilst the decision in *Fawke* pre-dates the changes made in 2003 to interim rent, there appears to be no reason, according to Reynolds, why the more sophisticated treatment of interim rent post-2003 should not still allow differential rent.[76] The main other case relating to differential rents, *National Westminster Bank Ltd v BSC Footwear Ltd*,[77] did not impose a differential rent, in part because the court was concerned about the limit to the arbitrator's powers. However, this was not a Part II renewal case, and the court expressly distinguished *Fawke* on that basis:

> [I]t seems to me that the court [in *Fawke*] was faced with a different task. It could balance, on the one hand, the virtues of giving a long lease with differential rents against the alternative of giving a short lease so that the landlord could then come along and obtain the benefit of inflation, and I am not surprised that differential rents are possible under that statute.[78]

The recent unreported case of *HPUT v Boots plc* did not see fit to impose a stepped annual rent increase on the basis that this would be a "highly unusual provision" in the market.[79] Overall, however, it seems that not only are differential rents possible upon renewed leases under the 1954 Act, but also that they might be used during the first few years of the renewal lease whilst EEW are undertaken.

5.5 Varying other lease terms: s.35

This subsection considers whether s.35 as it stands now enables courts to imply a term enabling a landlord to request that clauses about proposed EEW are inserted into the new lease.

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[75] See the draft Bill Minimum Energy Performance of Buildings (No 2) HC Bill (2021-2022) 150 which envisages a grade B for all non-domestic properties within just 7 years.
[76] Reynolds and Clark (n.60) 565.
[77] *National Westminster Bank Ltd v BSC Footwear Ltd* (1980) 42 P & CR 90.
[78] Per Lord Templeman 95.
[79] *HPUT v Boots plc* (n.58) at [98] per HH Judge Dight.

Since little guidance is contained in s.35 itself and it is not possible to say with much confidence whether this would be the case or not, the following subsection discusses the main case arising from s.35 and possible other implications.

S.35 as it now stands

The question is whether the court already has intrinsic power to imply energy terms under s.35, the wide wording of which enables courts to consider not only the present tenancy, but also "all relevant circumstances".[80] There is no case which is specifically helpful here, partly because most decisions relate to user or alienation,[81] or to break clauses being inserted in the new lease.[82] Two cases are of some relevance. First, in *Bullen v Goodland*[83] relating to repairs, it was suggested that in a seven-year lease, responsibility for the structure could normally be left out.[84] Secondly, in *Amarjee v Barrowfen*[85] relating to improvements, the tenant wished to be able to carry out structural alterations in the renewal lease, with the usual provisos of the landlord being able to approve plans. This was refused by the court with the judge finding that, since none of the other tenants in a parade of shops had been allowed to do anything similar, there was no reason why this tenant should be allowed to.[86] In both cases there was some doubt as to the terms of the previous lease, [87] and neither *Bullen* nor *Amarjee* provide much assistance in seeing how the impact of future EEW would be used by courts (if at all) to carry over new stipulations regarding repairs or improvements into the new lease.

There is a separate problem where the tenant wishes to take *more* of the holding than was originally demised or be granted additional rights. It is clear, presently, that under s.35, the holding cannot be extended in this way, as in the statement in *Orlik* that "however widely

[80] Section 35(1).
[81] Haley (n.4) 273.
[82] See para 5.8.
[83] *Bullen v Goodland* (1961) 105 SJ 231 CA.
[84] Ibid.
[85] *Amarjee v Barrowfen* [1993] 2 EGLR 133 CC in Reynolds and Clark (n.60) 497.
[86] Ibid.
[87] Reynolds and Clark (n.60) 496 and 497.

expressed, section 35 cannot, in our judgment … be construed to enable the court to enlarge the holding, for example … by conferring rights over the landlord's land not hitherto enjoyed".[88]

Revising or adding to s.35

Suppose that s.35 does not allow a court to intervene to insert special terms in the renewal lease for EEW. In that case, Parliament could consider legislating in a similar way to the situation when the 1995 Act[89] was passed, where a new s.35(2) was enacted enabling courts to have regard to the passing of that Act when including terms in the renewal tenancy under s.35.[90] Little was given in the way of guidance as to how this should be interpreted, but the decision in *Wallis Fashion Group Limited v CGU Life Assurance Limited*[91] did shed some light. In *Wallis*, it was held that there was no automatic right for an AGA to be placed into a lease upon renewal if the previous lease did not require one. Perhaps similar wording could be used for a new "s.35(3)" such that, for example, "the court shall take into account any energy efficiency works required to be undertaken by the landlord or tenant" when deciding what terms to include in the renewal lease. There would, however, be difficulties in enforcing such new wording, which relate largely to what has already been discussed.[92] There are also similar concerns with enforcement, allowing the environment (via the MEES regulations) to take priority over both the landlord's and the tenant's needs.[93]

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[88] Per Stamp LJ in *G Orlik (Meat Products Ltd) v Hastings and Thanet Building Society* (1975) 29 P&CR 126, 133.
[89] The Landlord and Tenant (Covenants) Act 1995 which, amongst other changes, enabled original tenants to escape liability for covenants when assigning their lease.
[90] Section 35(2) as inserted by the Landlord and Tenant (Covenants) Act 1995, s.30(1) and Schedule 1 para 4(2).
[91] *Wallis Fashion Group* (n.48).
[92] It has already been stated that the holding extent cannot be extended in the renewal lease, and the particular issues raised by mixed buildings or by installation of HVAC systems or by passive measures installations will not be repeated here.
[93] See para 5.4.

5.6 *O'May* and energy efficiency

Service charges are of increasing concern to both landlord and tenant (of commercial and residential properties) where there will be a need for heat mainly during the evening for most flat owners, but during the day for businesses. The regime for commercial and for residential properties varies between commercial properties (whether they are contracted out of the 1954 Act) and for residential properties. For the latter, service charges have in recent years been governed by a large accretion of legislation whereas for the former, service charge rules are still largely common-law based and, therefore, dependent only upon what is in the lease.[94] For landlords, the ability to get a "clear" lease, that is, a lease which is one for which they can just keep the whole of the rent with minimal outgoings being deducted, is increasingly important.[95] In practice, however, where older leases are being renewed under the 1954 Act, landlords cannot always get their wish. This was demonstrated by the case of *O'May v City of London Real Property*.[96] The House of Lords held that the landlord's desire to vary the service charge provisions so as to require the tenant to pay an increased service charge to cover repairs was not justifiable. This case laid down a general rule that any such future change must be justified by the person proposing it. It was not a blanket ban on change to renewal leases, but rather laid down guidelines to prevent one party (usually the landlord) imposing terms in the renewal lease that were harsher than before without good reasons for doing so.

The *O'May* Decision

Where substantial works (including energy refurbishments) have been carried out to the building, most landlords will add the cost to their service charge, and if there is no service charge, they will wish to introduce one. In *O'May*, the landlord wanted to make the building maintenance costs into a separate service charge on lease renewal and, whilst both parties'

[94] P Freedman, E Shapiro and B Slater, Service Charges: Law and Practice (6th edn, Lexis Nexis 2018) v-vii.
[95] P Williams, 'Oh Me, Oh My, *O'May*!' (2015) 19(5) L&T Rev 181.
[96] *O'May v City of London Real Property* [1983] 2 AC 726, 741.

surveyors had agreed the figure for reduction of rent in lieu of the new service charge which was to be levied, this was not deemed by the Court to be a good substitute. The tenant would be left with a variable service charge in the future and an "unpredictable" liability for repairs.[97] In the main judgement, Lord Hailsham laid down four principles that govern how renewal leases may be amended:[98]

1. a valid reason must be shown for any variation;
2. the other party must be adequately compensated for the effect that the new provision will have on rent;
3. the tenant's business must not be materially impaired; and
4. it must be fair and reasonable to make the change.

Lord Hailsham's four tests are now a benchmark for EER measures being included in the new lease. Firstly, the MEES legislation means that wherever possible, it is likely that EEW will be considered to be a good reason, since someone (either the landlord or the tenant) must do the works. Secondly, the other party, often the tenant, will normally be compensated for the works, since unlike the situation in *O'May* where a longer-term service charge was being introduced by the landlord, EEW are one-off works that are quantifiable. Thirdly, the amount of disruption or impairment to the tenant's business will normally have been considered at the opposed hearing, that is at the preliminary hearing.[99] If there has been such a hearing, then some of the principles might already have been argued in the context of s.31A,[100] and so, if further discussions about the terms of the renewal lease are required, the question of business impairment will have been

[97] Per Lord Wilberforce at 749.
[98] *O'May v City of London Real Property* (n.96).
[99] Under Practice Direction 56 para 3.16, the court may order trial of the grounds of opposition as a preliminary issue. Civil Court Service 2021 1414.
[100] Whilst s.31A only applies to the tenant's opposition under ground (f), and therefore only to opposed tenancies, the principles discussed above about disruption may apply to unopposed tenancies, or to cases where the landlord's grounds of opposition have been held to be invalid and both parties are at the stage of agreeing a renewal lease. For an overview of the issues pertaining to s.31A, see Appendix G.

discussed twice in court. As has been stated above, the carrying out of EEW is not necessarily structural, [101] but it could be considered substantial, and if so, some of the criteria under s.31A (disruption to the term and to the holding) will apply. There are some differences too, since under s.31A, disruption to the tenant's business has been held to be of no importance; it is disruption to the tenant's holding that is considered.[102] Finally, the fourth test, whilst being somewhat vague, does retain the court's ability to use its discretion, and if (in the case of a multi-let building) the landlord wishes to obtain a contribution from the tenant towards the EER works, it is submitted that the extent to which tenants are asked to make a contribution might govern whether the overall change is fair and reasonable.

Developments since *O'May*

If *O'May* was designed to prevent a tenant from unjustifiably being asked to assume a longer-term risk, then it would be ironic if that decision could now be said to be preventing changes being incorporated into the new lease which would, in energy efficiency terms, be of benefit to the tenant long-term. Yet it appears that the decision has indeed become an unjustified argument not to change any provisions in an older lease, so much so that Hindle has described it as a "mantra".[103] Whether this case will in future have a direct bearing on to what extent renewal leases should be varied so as to facilitate passive or active refurbishment works remains to be seen. In *O'May*, Lord Hailsham's later comments referred to "the general purpose of the [1954] Act which is to protect the business interests of the tenant",[104] and it is possible that similar justifications might in future be used for changes to the renewal lease enabling landlords to carry out such EEW and to charge them to the tenant.[105] In other words, even

[101] See para 4.3.
[102] Reynolds and Clark (n.60) 395.
[103] A Hindle, '*O'May* Dismay', (2011) 15(3) L&T Rev 77, 78.
[104] *O'May* at 740.
[105] See para 1.4 for example the case of *R (on the application of William Ellis McLennan) v Medway Council* [2019] EWHC 1738 (Admin).

without Parliamentary intervention, future judgments may hold that there is already an inherent fairness in EEW being permitted under the four-part test in *O'May*.

When commenting on the somewhat different approach seemingly taken by Sales J in the *Edwards*[106] case, Thompson-Copsey believes the much longer 15-year lease in *Edwards* meant that "there was less need [than in *O'May*] to distinguish the respective interests of the landlord and the tenant in maintaining the fabric of the building".[107] Her arguments focus on the issue of repair, and not energy improvement, but it is submitted that the principles in *O'May* may well be used to justify departure from the terms in the old lease when substantial EEW (i.e. improvements or refurbishments) are intended. It will be recalled that the matter of whether EEW constitute improvements or repairs was considered in Chapter Four,[108] where it was shown that although they are usually classified as improvements, the distinction is not always clear. If the EPC works required to be carried out to a demised property are improvements, the works to be done will be more than mere repairs so, if *O'May* is interpreted strictly, it might suggest that the renewal lease could not be amended to enable EEW.

A recent application of the above principle has been seen in the county court case *Clipper Logistics PLC v Scottish Equitable PLC (unreported).*[109], in which the judge accepted the tenant's argument that it should not have to bear much of the cost of any EEW, and rejected the wording of all three of the covenants that the landlord wanted to be inserted,[110] instead allowing a covenant so that the tenant could hand back the premises at lease end in the same EPC state they were in at the start of the premises.[111] Yet, as Creer makes clear, this seems an

[106] *Edwards and Walkden* (*Norfolk*) *Ltd v City of London* [2012] EWHC 2527 (Ch).
[107] S Thompson-Copsey, 'Change of lease terms on renewal: variable service charge clause – *Edwards and Walkden* (*Norfolk*) *Ltd v City of London* [2012] EWHC 2527 (Ch); [2013] 1 P & CR 10' (2013) 17(2) L&T Rev 67, 70.
[108] See para 4.4.
[109] *Practical Law UK*, Property Litigation Column: Greener Lease Renewals, Andy Creer. Published 31st May 2022.
[110] Ibid 2.
[111] Ibid.

unsatisfactory way of dealing with the issue, as it is "potentially unfair to both parties in ways it is impossible to estimate and balance at trial".[112]

5.7 The challenge of break clauses

Break clauses are the right for the landlord or tenant prematurely to end the lease. It is the purpose of this section to ascertain the interpretation of break clauses for future EEW. A brief overview of break clauses is necessary as this area is of some complexity. Break clauses are rapidly becoming more relevant as tenants, who are aware of their rights during negotiation, are increasingly asking for such clauses to be included.[113] Put simply, break clauses are becoming more popular,[114] and in some circumstances, a tenant's break may even mean that the tenant will take a lease where they would otherwise not have done so.[115] Break clauses come in many different shades. For example, whilst most break clauses only operate at fixed intervals, say, after 5 years, or 10 years, others are "rolling" clauses which can be exercised at any time.[116] Some can be exercisable without any conditions (a practice encouraged by the Lease Code, which only requires the rent should be up-to-date and the property should be free from subtenants).[117] By contrast, others can only be exercised with conditions, often when redevelopment is to be carried out by the landlord or perhaps by payment of a sum (the latter usually by the tenant). There is a substantial body of caselaw pertaining to break clauses,[118] which means that, when the wording of a break clause in the renewed lease is being considered,

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[112] Ibid 3.
[113] Reynolds and Clark (n.60) 501.
[114] Mason (n.33).
[115] N Madeley, 'Give us a break' (2014) 18(3) L&T Rev 96, 97.
[116] Similarly, some break clauses may be exercisable whoever the tenant is, but others are drafted so that they are only exercisable by a specific (named) tenant, and the break provision therefore becomes invalid upon assignment; see C Newnham: 'Practitioner's page September/October' (2010) 14(5) L&T Rev 200, 201. This is the case even if that same tenant then takes their lease back by re-assignment (ibid, 201) and see also *Aviva Life & Pensions Limited v Linpac Mouldings* [2010] EWCA Civ 395.
[117] Royal Institute of Chartered Surveyors (RICS), *Code for Leasing Business Premises (England and Wales)* 1st February 2020 para 2.4.
[118] M Warwick and N Trompeter *Break Clauses* (3rd edn, Hart Publishing 2021) v (Lord Neuberger's foreword to the second edition).

advisors and courts should know when and on what basis tenants or landlords will be entitled to break a lease.

Break clauses (called "breaks" from this point on) are implied into the new lease under s.35, not s.33.[119] The two sections utilise different wordings:[120] Section 35 requires courts to "have regard to the terms of the current tenancy and to all relevant circumstances",[121] whereas s.33 instead stipulates that it should be such a tenancy as is "reasonable in all the circumstances". One note of caution; whilst *Davy's of London*[122] used s.35 to imply break clauses, after reviewing the authorities, Lewison J expressed concern that "it is fair to say that the cases [on whether breaks are implied under s.33 or s.35] do not speak to one voice". [123]

Landlord's breaks conditional on development exercised for EEW

A frequent condition found in break clauses is that the tenancy can be ended by the landlord if the property is required for redevelopment. There is as yet no direct authority on whether, or how, a redevelopment condition might apply to EEW, but Warwick and Trompeter[124] highlight the case of *City Offices*,[125] relating to an eggshell tenancy. Even though no part of the structural framework was demised, the floor and ceilings were being replaced (both floor and ceiling had different levels after completion) and "importantly, the external brickwork walls … will be demolished … leaving the leased property open and exposed … for many months".[126] All of this led Nicholls LJ to conclude that since these changes constituted "the physical demolition of most of the eggshell … and the rebuilding of something significantly different".[127] Nicholls LJ found that as these changes did constitute redevelopment, the landlord could exercise its break clause.

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[119] *Dukeminster v West End Investments (Cowell Group Ltd)* [2016] L&TR 4 (n.24).
[120] Warwick and Trompeter (n.118) 277.
[121] Ibid.
[122] *Davy's of London (Wine Merchants) Limited v City of London Corporation* [2004] 3 EGLR 39.
[123] Ibid 42.
[124] Warwick and Trompeter (n.118) 205.
[125] *City Offices (Regent Street) Limited v Europa Acceptance Group Plc* [1990] 05 EG 71.
[126] Warwick and Trompeter (n.118) 205.
[127] Ibid.

Whether, however, *City Offices* would in future give a green light to any landlord wishing to exercise a redevelopment break clause in order to refurbish its property for EEW is unknown.[128] Much of that case focused on the fact that the demise would be different after the works were carried out, with particular emphasis on the slightly changed lettable areas and the rebuilding of something "significantly different". Whether Nicholls LJ's arguments could apply in the same way to installing insulation, enhancing air-tightness and other passive energy measures is debatable and, from the nature of EEW discussed in previous chapters, it will be recalled that quite often the layout of the property will be unaffected by the various passive measures installed. Indeed, if one were to apply Nicholls LJ's arguments literally, if larger widths of older insulation were installed rather than narrower, more efficient modern insulation, it is more likely that redevelopment would be deemed to be taking place than if the newer, thinner insulation were used. Clearly this would be a nonsensical result. In the absence of clear wording about EEW, redevelopment and reconstruction break clauses can probably not be used by landlords for EEW.[129]

Why tenants' break clauses may impair energy efficiency funding

No matter how long the length of a lease that is granted, any renewed lease allowing tenants to break their lease early could cause financial problems for landlords. A landlord who has just expended a large sum on energy efficiency refurbishments on the basis that their tenant has taken a ten-year renewal would not be at all pleased to find that same tenant exercising a break to terminate after just one year, leaving the landlord with an empty property. This could significantly reduce its own ability to meet repayments due for EEW that have been carried out previously. At the moment, this is more of a problem in theory than in practice for lease

[128] See *Pumperninks of Piccadilly Ltd v Land Securities Plc* [2002] EWCA Civ 621, [2002] Ch 332. The court in *Pumperninks* was referred to the case of *City Offices* as the only reference to eggshell tenancies but did not find it useful.

[129] Similar, but also different issues to redevelopment under ground (f) are raised, which are not discussed here.

renewals, since there are still very few reported decisions where tenants have been awarded breaks upon 1954 Act renewals.[130]

The question posed at the start of this subsection is now re-stated: where substantial EEW are being carried out should tenants' breaks simply be banned in the renewed lease? That is, should s.35 be amended to prevent courts from routinely awarding breaks in the new lease? The problem with doing so is that breaks often serve a useful purpose for many tenants and landlords. By way of example, a landlord may be content to allow a tenant to rent older premises for a few years at a favourable rent whilst the landlord obtains finance and planning permission to redevelop the site in the future. When it has the capital funds and the required planning permission, that same landlord will normally want to get their tenant to leave on short notice. Likewise, tenants may be content to rent a particular set of premises for a few years whilst they look around for other premises in order to relocate their business. Breaks, whilst admittedly adding another layer of complexity to business leases, do provide significant flexibility and banning them completely would not appear to be sensible for commercial reasons. Instead, this final part considers whether, when and how such clauses might be restricted in the context of renewal leases.

Comparing break clauses with alienation clauses in short leases

If the Government's own figures are to be believed, most leases of just 7 years will enable the cost of EEW to be repaid within that time, although this figure is subject to some doubt as previously indicated.[131] However, assuming for the moment that the Government's figures are correct, might it, therefore, be possible to simply ban breaks in leases of less than 7 years? An idea that was broadly similar has previously been considered by the Law Commission[132] which

[130] Warwick and Trompeter (n.118) 284.
[131] Chapter One (1.6).
[132] Law Commission, *Working Party's Provisional Proposals relating to Covenants Restricting Dispositions, Parting with Possession, Change of User and Alterations* (Law Com No 025, 1970), 31.

mooted the idea of prohibiting alienation restrictions in shorter leases, amidst doubts that a "universal and inflexible" rule covering both weekly tenancies and 999-year leases could be justified.[133] Notably, the Commission felt that lease length was a significant factor in deciding whether to ban such clauses, even going so far as to state that their considerations may "lead to the conclusion that absolute covenants against assignment or underletting might be permitted in … short leases, but not in … leases for longer periods".[134]

Since many smaller tenants choose not to obtain legal advice, it is helpful to look briefly at two commonly used short leases, namely the Law Society's lease and the Royal Institute of Chartered Surveyors (RICS) lease, in order to see what approach these leases adopt towards both alienation and breaks. The Law Society's short form lease allows assignment[135] subject to the landlord's consent, but then this lease type is described on the Law Society's website as being suitable for lets of up to 10 years.[136] This is a long period of time and where for most tenants, in any lease lasting of a decade, permission for alienation will be highly desirable. However, the RICS Small Business Lease promulgated by the Government in 2012 goes even further, allowing assignment entirely at the tenant's choice with only a requirement to let the landlord know after the event.[137] The position regarding breaks is even more clear since both these short pro-forma leases make provision for tenant-only breaks.[138] Both these short-term leases serve as a reminder that, even with short tenancies, the ability to assign is important, as is the ability to exercise a break.

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[133] Ibid 29.
[134] Ibid 31.
[135] The Law Society: *Short Form Lease for the whole of an office* (clause 4.11.3| Dealings). Accessed 18th March 2022. https://www.lawsociety.org.uk/en/topics/property/business-leases-forms
[136] Ibid.
[137] RICS, *Small Business Retail Lease* (2012) (clause 6.9|Disposal). Accessed 28th February 2022. https://www.ricsfirms.com/media/1219/17005-rics-small-business-lease-inside-act-v2.pdf
[138] See clause 8 of the Law Society Lease (n.135) and clause 12 of the RICS Small Business Lease (n.137) respectively.

Breaks being allowed upon tenant's paying towards energy works when exiting the lease

The linking of consideration with breaks is not a new idea. During the pandemic, a solution suggested for tenants struggling to pay was that they should give up their break in return for a rent concession. Indeed, HM Revenue and Customs issued emergency guidance, effectively giving a tax concession.[139] However, Madeley argues that the beneficiary of the tenant's break notice (i.e. the tenant) will already have paid for the privilege of their break by provided consideration in advance through an increased rent.[140] Although Madeley's comments are in the context of a Court of Appeal case[141] where a break notice was held invalid for other technical reasons,[142] his insight into the principle of consideration having already been paid for a break is helpful. He points out that in some cases, the tenant might not even have taken the lease originally without the break,[143] so any landlord challenging the exercise of the break is, therefore, "[having] cake and eating it".[144] Taking Madeley's arguments one step further in the context of EEW, since breaks are linked to rental value, this raises the question of whether as a condition of exercising the clause, the tenant should be required to pay the landlord compensation for any expensive EEW. Where the fictitious landlord of either the left-hand or right-hand property has expended much money for such works,[145] in the hope of their tenants being able to stay and pay rent for many years for a well-insulated property, it seems fair to argue that the tenant should recompense the landlord if it ends the lease early.

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[139] HM Revenue and Customs, *Policy Paper: Revenues and Customs Brief 11 (2020): VAT and Stamp Duty Land Tax when existing leases between landlords and tenants are varied*. https://www.gov.uk/government/publications/revenue-and-customs-brief-11-2020-vat-and-stamp-duty-land-tax-when-existing-leases-between-landlords-and-tenants-are-varied/revenue-and-customs-brief-11-2020-vat-and-stamp-duty-land-tax-when-existing-leases-between-landlords-and-tenants-are-varied Accessed 18th March 2022.
[140] Madeley (n.115) 101.
[141] *Friends Life v Siemens Hearing Instruments Ltd* [2014] EWCA Civ 382, [2014] 2 P&CR 5.
[142] Madeley (n.115) 96.
[143] Ibid 97.
[144] Ibid.
[145] See Chapter Two (2.8).

At first sight this seems an attractive option. Since EPCs already contain figures for how much energy and, therefore, how much CO_2 will be emitted per square metre each year[146] and how much the property will cost to heat, these figures could be utilised to work out what the cost would be to run the property, how much would be saved by any refurbishment works, and what the difference per year would be. Any difference could simply be paid by the tenant in order to obtain its break. Indeed, helpfully in this respect, the typical notice period for a break, which is usually a few months, might be used by a tenant to obtain the finance to be paid to the landlord on the day that the break takes effect. This all seems "fair" initially, but there are significant potential drawbacks which are critiqued below.

Firstly, the tenant might need to raise a significant sum to exit the lease, particularly if the amount of works that the landlord has undertaken are large. This may not matter much to the tenant if the property is modern and the rent is high, since if they exercise the break at an early stage of the lease, they will be saving much money on the rent. However, the opposite situation occurs for tenants in old, dilapidated buildings with lower rents which require expensive EEW. In these older properties, if the proposed compensation system above were to be adopted, even leases with modest rents may have breaks requiring a very large sum indeed to be paid in comparison to the rent.

Secondly, landlords often wish to re-let their property when the tenant has exercised the break. A tenant on a 10-year lease from 1st January 2022 could exercise its break on the 1st January 2023 and move out on the 1st July 2023, having paid a large sum as above to the landlord to break the lease. However, now imagine that one day later, the landlord finds an excellent new tenant who moves in for a new 10-year lease at an increased rent. In this scenario, the landlord will have gained a large windfall, since it would have both retained the lump sum from the old tenant by way of "compensation", and yet still received a new rental income. Morally,

[146] This quantity, known as the energy intensity, was explained in para 1.7.

this seems extremely unfair. Perhaps one variant to this idea might be to require by legislation that any such monies be paid into a separate account for six or twelve months after the tenant moves out. If the landlord should find another tenant in that time, the former tenant will receive its money back. However, like rental deposits, not only might this require a new bank account to be set up, but it would also require large sums of money to be tied up for a year or more.

Thirdly, difficulties in interpretation may arise, as highlighted by Paul Clark when he points out that, in *Marks and Spencer v Paribas*,[147] the Supreme Court's rejection of an implied term that Marks and Spencer should be refunded overpaid rent on a break was against much of conveyancing expectation at the time. The Court of Appeal had held that if the parties had intended the implied term to be within the lease, they would have included such a clause expressly,[148] but Clark emphasizes that in his many years in practice, he had "never seen such a clause, nor had even heard of one".[149] In the second part of his article, Clark opines that the Supreme Court had exercised a "measure of hindsight" in their judgment in *Paribas*.[150] If there is so much uncertainty over the interpretation of even a relatively simple break,[151] it is easy to imagine breaks becoming the subject of far more extensive litigation if it becomes necessary to factor in additional complications of tenants being required to compensate their landlords for EEW if they try to exercise their break clause. Even the RICS Code does not help here, since concerning break clauses it states that, "Disputes about the state of the premises … should be settled later",[152] i.e., after the break date. Indeed, that same paragraph in the Code discourages any payment at all from being made by the tenant.[153] Such an approach would not sit easily with

[147] *Marks and Spencer plc v Paribas Service Trust (Jersey) Ltd* [2015] UKSC 72, [2016] AC 742.
[148] Per Arden LJ *Marks and Spencer plc v BNP Paribas Securities Trust Company (Jersey) Ltd* [2014] L&TR 26 at [35] who confirmed the old case of *Ellis v Rowbotham* [1900] 1 QB 740 still applied.
[149] P Clark, 'Drafting lease breaks after M & S – Part 1' (2016) 20(6) L&T Rev 239, 241.
[150] P Clark, 'Drafting lease breaks after M & S – Part 2' (2017) 21(1) L&T Rev 40, 41.
[151] This sort of break clause is simple as it has no conditions: compare the case in *Capitol Park* below.
[152] RICS Professional Statement, *Code for Leasing Business Premises* (1st edn 2020) para 2.4.
[153] Ibid.

the considerations discussed above, where the tenant is effectively to compensate the landlord for their refurbishment expenses under the lease.[154]

Finally, an interesting situation will occur if future breaks are made conditional upon the tenant being required to strip the property ready for energy refurbishments by the landlord in order to exercise the break. This is the sort of drafting that one can imagine becoming popular in future years where energy refurbishments become far more common. It is suggested that such drafting will be especially useful where landlords only want to grant a short lease on renewal, but they require their property to be left stripped out by the tenant (and therefore ready for immediate EEW to start) when the tenant leaves. Break clause conditions must be strictly complied with,[155] and the county court in *Capitol Park Leeds plc v Global Radar Services Ltd*[156] held that because too much had been stripped out by the tenant, they had not validly exercised their break.[157] The Court of Appeal did subsequently overrule that decision, but this first instance case demonstrates the problems in relying upon breaks with conditions of any sort, not just conditions which relate to EEW.

In summary, in the absence of Parliamentary intervention, breaks in the commercial property market are here to stay. Accordingly, where renewal leases granted over the next decade are intended to facilitate the carrying out of large-scale energy efficiency refurbishment works, it will be necessary firstly for courts or arbitrators to know what sort of break (if any) to insert into the renewal lease and secondly, how they should interpret breaks alluding to EEW in the old tenancy. The present law is unhelpful on either issue.

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[154] Further questions of how the exercising of break clauses may interrelate with the Landlord and Tenant Act 1954 are not addressed here due to reasons of space.
[155] Warwick and Trompeter (n.118) 132.
[156] *Capitol Park Leeds plc v Global Radar Services Ltd* [2020] EWHC 2750 (Ch), overturned on appeal [2021] EWCA Civ 995; digested in Warwick and Trompeter ibid 134.
[157] The wording contained in the lease break clause required the tenant to give "vacant possession of the Premises" and in its zeal to give vacant possession, the tenant had taken out some landlord's fittings.

5.8 Conclusions

All the situations discussed in this Chapter are of practical importance, since if the Government's desire to make properties have a grade B or more by 2030 does come to fruition, the cost of EEW will become a very significant factor impacting upon the terms of proposed renewal leases. Encouragingly, the figures for both CO_2 emissions and for the financial cost to heat per square metre for any property demised are in theory easy to compare. Assuming these are reliable, it is submitted that performing an environmental analysis could simply be a matter of landlord and tenant both obtaining reports and then disclosing them to each other, as is often done currently for rental evidence. Perhaps, too, the Part II notices may be amended to refer to EPCs.[158]

The question of how much of the demised premises (the holding) should be returned to the tenant is particularly important where it would be better for energy purposes for the various parts of the premises to be heated or cooled together, or perhaps combined with adjoining premises. It is submitted that the law, as it stands, in s.32 does not contain sufficient guidance or power for the building area to be changed or reduced where extensive EEW, both passive and active, are to be undertaken. Considering how the proposed savings, both financially and environmentally should affect the length of the renewal lease is not easy, since the question of who should pay interest on any amount that the landlord has borrowed to fund the EEW, or what happens if the EPC rules and grade boundaries change, are matters of speculation.

The question of rent valuation under s.34, both for the initial new rent set in the renewal lease, and possibly upon rent review, remains a complex one, since the novel considerations raised by EEW which are not technically repairs, raises questions as to who should pay for such works, and on what basis such works could be financed. There is an inherent tension between

[158] This is discussed briefly in Appendix H.

the market-orientated approach under s.34 of Part II on the one hand, and the need to ensure commercial properties have significant investment on the other hand in order to reduce carbon.

Finally, the very wide scope of s.35 gives hope on the one hand, that the courts have power to add in what terms they feel are appropriate, but also raises concern in that s.35 was never drafted with energy efficiency considerations in mind and has little statutory guidance. It is likely, though not entirely clear, that the test in *O'May* could be used to interpose additional terms allocating EEW costs between the parties.

In summary, when considering the sections about the holding (s.32), the term (s.33), rent and rent review (s.34) and other terms (s.35), it is suggested that the present law is inadequate for renewal leases accompanying major EEW. However, with some small changes to the legislation discussed above, and particularly where several of the ideas mooted are combined, renewed leases could be made to be more carbon friendly. Perhaps, for example, the power for courts to extend the lease length might be combined with power to impose a moratorium on breaks within the first three years of any renewed lease, with an improved regime for compensation if the tenant does exercise that break, and an initial differential rent.

6 CHAPTER SIX: Conclusion

6.1 The aims restated

This thesis has considered how the present laws relating to dilapidations, improvements and the renewal of business tenancies in England and Wales will cope with the MEES regulations requiring business premises to have a better EPC. It has considered how the retrofitting of business buildings with passive energy-saving measures can be facilitated under present landlord and tenant law, ensuring low carbon emissions for the 80% of commercial buildings that will still be being used in the UK in the year 2050. The thesis has incorporated interdisciplinary research, seeking to bring together knowledge from two different areas using analogy and visual techniques to see how passive energy refurbishment works will sit with the current law for business tenancies.

The aim has also been to try and build up from basic principles the science behind passive technology, and to use this understanding to explain where the existing landlord and tenant law is deficient and where it might be changed. Since installing any passive heat-retaining technology often requires much more change to the building than active systems, this is an emergent problem in England and Wales for commercial properties. Over the last few years, market forces have driven commercial lease lengths down, increased the demand for tenants' breaks and increased the number of leases being contracted out. This is going to be problematic when considering the passive measures required to save energy in buildings. If billions of pounds need to be spent on the UK's building stock to refurbish it, a financial impasse could arise if the government decides to significantly increase EPC grades. Those tenants in older buildings, where it is difficult to ascertain where the "blame" lies for draughts, poor insulation and heat bridges, may find the terms of their renewal far less favourable and, if the proposed

reforms of an EPC grade B are brought in, there will be many additional expensive obligations on tenants.[1]

6.2 The present system

It is perfectly possible for a landlord of a multi-let building to have an efficient boiler or HVAC system in one area of the building, but to have a tenant in another area of the building with a poorly maintained fabric which is leaking heat and, therefore, energy. Currently, there is no mechanism to prevent this. The relationship between landlords and tenants in shared buildings for energy purposes has not yet been considered in sufficient detail by legislators, probably because the interrelationship between landlord and tenant law and energy law has not been considered of sufficient importance. If so, that is a more specific oversight arising from a much older problem, demonstrated by Bradbrook's comments that when he taught property law, he was surprised to see so much emphasis upon land registration in training, whereas the cases on landlord and tenant greatly outnumbered the land registration cases that reached the New Zealand High Court.[2] If Matusiak's article about the thought experiment in designing an energy efficient house is understood, as well as exposing the "latent wisdom" of the ancients she showed that, even today, the shape of the building envelope is as crucial as its thickness for heat retention.[3] This strengthens the argument that energy efficiency is linked to the whole of a building, and not just to part of it.

There is no escaping the fact that in a building owned by a single landlord and occupied by many tenants, then unless those tenants all have individual conditioning systems, the building has to be considered as a whole when calculating energy efficiency. The present law of business tenancies does not take this into consideration and, therefore, the present legal system is likely

[1] N Darby, 'Green Leases: some positive thoughts' (2008) L&T Rev 12(5) 160, 161.
[2] A Bradbrook, 'Property Law and Energy Law: One Academic's Perspective', in P Babie and P Leadbeter (eds), *Law as Change: Engaging with the Life and work of Adrian Bradbrook* (University of Adelaide Press 2014) 257, 260.
[3] B Matusiak, 'Low-energy house: back to the 'årestue': a thought experiment about low-energy houses', (2012) Architectural Science Review 55(2) 90.

to be inadequate for renewing the next generation of leases. Especially with buildings that are not homogeneous, the present law provides no effective guidance. Where there are existing gaps or differences in repairing covenants, the only solution is for the two parties upon lease renewal to agree between themselves whether, and to what extent, the landlord or tenant should contribute. Given the large scale of energy refurbishment works likely to be required across the UK over the next couple of decades, the fact that the renewal procedure does not encourage this should be a matter of concern to landlord and tenants.

6.3 An alternative system?

The Australian NABERS system was introduced as an alternative to the UK's present EPC system. However, quite apart from the different approach to energy ratings, the Australian leasehold system is different to the UK's. Crosby[4] analyses the Australian and particularly the Victoria State's approach to commercial leases where rapid expansion of the economy in the 1970s led to ill-treatment of retail tenants in many shopping centres. As a result, all eight Australian states legislated individually to protect tenants.[5] Certain matters must appear in all business tenancies such as repairs and service charge, and landlords must also provide a disclosure statement prior to the lease. Most leases have minimum lengths of 5 years.[6] Crosby does not suggest that the Australian system should be adopted wholescale in the UK, but does suggest adopting their practice of fining landlords or allowing tenants to end their lease early if the landlord did not provide a full disclosure statement prior to the lease. Perhaps this might be an idea for the two RICS codes of practice, although since it has recently become mandatory for RICS members to have regard to parts of it, it may in future be less of a failure than its predecessors.[7]

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[4] N Crosby, 'Commercial lease reform in the UK – can we learn from the Australian experience? Working Papers in Real Estate & Planning 14/06' Accessed 2nd April 2022. https://centaur.reading.ac.uk/20611/
[5] Ibid 6.
[6] Ibid 10.
[7] R Hewitson, 'The leaf turns again but has it now got teeth – the new Code for leasing business premises?' [2020] 1 Conv 3, 10.

It is neither possible nor desirable in one short subsection to provide detail on the legal system of another country, but the Australian system does give a tantalising glimpse of how another common-law jurisdiction has dealt with similar issues to England and Wales. Here in the UK, the government has not seen it necessary to legislate on implying terms into business leases. In contrast, eight different states in Australia have found it necessary to impose mandatory legislation or codes governing business tenancies, rather than voluntary codes.[8] If that is the position where only the rights as between landlord and tenant are to be governed, then it is suggested that legislation will increasingly be required where the rights of a third party (i.e., the environment) now need to be protected as well.

6.4 Possible proposals for reform

Coleman, writing in 2021, (under the heading "The great unknown") highlights the need for primary legislation to place legal obligations on tenants to help with energy works,[9] something that she writes is "not forthcoming".[10] Although the primary aim of this work has been to analyse the existing law, three areas of possible reform are highlighted below for landlord and tenant law. They are suggested only briefly, and not critiqued further for reasons of space.

Firstly, liability for repairs and other covenants could vary with length and type of lease. The present law even for repairs (i.e., not improvements such as energy efficiency works (EEW)) is in a deeply unsatisfactory condition and the calls for reform that have stretched back many years have not, as yet, been heeded. Perhaps one solution might be for different types of commercial leases to have different terms for repair implied into them, which would in turn make the job of allocating responsibility to EEW easier. Rights were previously given to shop *retail* tenants only in the Leasehold Property (Temporary Provisions Act) 1951,[11] though this was the short-lived

[8] Ibid 6.
[9] S Coleman, 'What's in a letter? Will EPC B be the headache or cure?' (2021) 25(4) L&T Rev 146, 149.
[10] Ibid.
[11] M Haley, 'The Statutory Regulation of Business Tenancies: Private Property, Public Interest and Political Compromise' (1999) 19 Legal Stud 207, 222.

precursor to the 1954 Act. Perhaps it is time to do as some other jurisdictions do, and have different sets of implied terms for different commercial lease types (retail, office and industrial, say).[12]

Perhaps it is also time to differentiate between leases of different lengths. For example, short leases of 3 years or less could not only have prohibitions on alienation, but place an express duty on landlords to keep the premises in good energy efficiency order; medium length leases of 3 to 7 years have similar provisions by default, but allowing the tenant to opt out on approval by a court; and longer leases of 7 years or more might be able to be negotiated directly between the parties in much the same way as is presently the case. A rather different form of this proposal was strongly recommended by the Jenkins Committee, but never taken up.[13]

Secondly, changes to Part II might be considered. Various suggestions were made in Chapter 5 for some of Part II to be changed, such as an ability to vary the extent of the holding or even, in limited circumstances, to extend the holding. Likewise, the ability to impose a minimum lease term under s.33; to eliminate break clauses for a set period and to enable any EEW to be taken into account in s.34 for rent review could all be useful. Section 35 as it now stands may assist judges, but in the absence of any guidance this remains an unknown factor. It is suggested that any proposed changes would be of minimal drafting length since in each case only a sentence or two to amend Part II would be required.

Thirdly, and finally, changes to the statutory notices under Part II could be considered. Perhaps the s.25 notice and the s.26 request, together with possibly the initial s.40 request for

[12] The Australian system which regulates retail leases separately to other commercial leases is mentioned above.

[13] Leasehold Committee, *Final Report of the Leasehold Committee* (Cmd.7982, 1950) "The Jenkins Committee Report" unnumbered page facing 118.

information, could allude expressly to the MEES regulations and request details of the previous EPC certificate, together with any proposed work that is intended to be done in (say) the next seven years. There is a theoretical difficulty here, in that if notices were to be amended for EEW, the same argument could perhaps be made for other physical work intended to be done on the premises, such as asbestos or fire safety work. Nevertheless, two factors suggest that EEW should be treated differently. One is the fact that EPCs hold so much information about the state of the premises, including the energy intensity and cost entailed in heating the holding in the next few years. The second factor is the anticipated timescale of just a few years in the UK to implement major carbon-reducing measures (whereas, by contrast, asbestos problems have been known about for several decades now). Requiring EPC information at the same time as the statutory s.25 or s.26 notices, which give between 6- and 12-months' notice of the ending of a tenancy, would at least give both parties time to consider how to finance energy efficiency works.

6.5 Conclusions

In one final use of analogy, this time a poetic one, it is helpful to recall MacNeice's famous aphorism written in dark times in 1938, that the "equation will come out at last".[14] However, the problem with considering energy efficiency issues alongside business tenancies is not merely balancing any equation, but rather that energy works rarely enter the landlord and tenant equation at all. Energy efficiency works are not considered in the law governing tenants' improvements, they are not considered in dilapidations and equally they are not considered in the negotiations for the renewal lease.[15] This is perfectly understandable since neither the 1927 Act nor the 1954 Act were drafted with carbon reduction in mind. However, the question of how, and to what extent, the original bargain made between landlord and tenant should be interfered with remains unsolved. This question is now very different to the issues faced a

[14] L MacNeice, *Autumn Journal* (Faber and Faber 1939) 83.
[15] The possible exception is the generic right for court to imply terms under s.35.

century ago, when it was simply a matter of tipping the balance between the two parties one way or another. Now the needs of the environment also need to be considered, yet sadly there is little evidence of a consistent approach. At the time of writing, there are two separate bills in Parliament aiming to reduce carbon in buildings – the Carbon Emissions (Buildings) Bill[16] and the Minimum Energy Performance of Buildings (No 2) HC Bill (2021-2022) 150.[17] Whilst any effort to reduce carbon is welcome, it is suggested that without an understanding of both the physics of heat loss and the workings behind EPC grades, together with the law relating to business landlord and tenant, any effort to reduce carbon in commercial buildings can have only very limited effect.

This thesis has sought to examine the existing law, to assess whether it is suitable for the forthcoming revolution in carrying out EEW. It is suggested that it is not entirely suitable, for the many reasons given above. The use of green leases and, more particularly carbon-reducing leases, is something that is expected to increase from 2022 onwards,[18] and when the MEES deadline of 1st April 2023 arrives, meaning that existing tenancies must be compliant, this will be much more so. With some amendments, Part II could become of pivotal use in ensuring a fair, workable and an effective means of substantially reducing carbon emissions within the UK's commercial property stock over the next decade or so. If suitable amendments were also made to Part I of the 1927 Act, then perhaps both these statutes on lease termination and security of tenure could be used to harmonise the EPC regime and NABERS regime. By so doing, these two statutes could actively facilitate climate friendly provisions in the UK's tenanted commercial stock, enabling courts, surveyors, lawyers and energy assessors as well as landlords and tenants to help reduce carbon emissions.

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[16] The Carbon Emissions (Buildings) HC Bill (2012-2022) was withdrawn in March 2022, then presented again on the 20th June 2022. It is designed to introduce a new 'Part Z' of the Building Regulations requiring builders to consider the overall carbon in a building's lifecycle.

[17] The brief clause 7 of this draft Bill will require all rented non-domestic buildings to be EPC grade B by 2030, unless there are strong technical or economic reasons rendering this impossible.

[18] K Lang, 'What lies ahead in 2022?' L&T Rev (2022) 26(1) 1, 3.

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LIST OF APPENDICES

Appendix A: The Failure of Previous Carbon Schemes

Kyoto and the Carbon Reduction Scheme

The Kyoto treaty and schemes implemented under the treaty epitomise the "offsetting" schemes that have sprung up in the Western world, something that has left a confused picture:

The Kyoto Protocol is best known for setting emission reduction targets among states in the North. But it also spawned a global carbon market when it permitted states to exchange carbon units to meet their targets.[1]

Indeed, the carbon-trading schemes implemented by Kyoto became so vulnerable to exploitation that in 2013 Interpol produced a guide to spotting carbon fraud, giving at least ten different ways of being defrauded.[2] Interpol's guide highlights that since, with carbon credits, nothing ever changes hands, i.e. there are no physical assets, no share certificates or bonds, it is difficult to track down fraud, and this difficulty increases further where credits are traded to countries with low regulatory standards.[3] Even when Interpol is successful in tracking down stolen carbon credits, it can be hard to recover any money lost since different countries' jurisdictions have different rules about returning stolen property.[4] However attractive, therefore, it may seem to use offsetting of carbon produced in a Western economy to reduce carbon emissions, the difficulties in policing the Kyoto agreement provide a further argument that it is simply better to focus on reducing CO_2 at source.

International carbon levies

Whilst fiscal regimes have been used by a number of countries to try to reduce CO_2 there is difficulty in obtaining data or in interpreting the figures accurately. Such difficulty starts even in

[1] S Mason-Case, 'On being companions and strangers: lawyers and the production of international climate law' (2019) 32(4) Leiden Journal of International Law 625, 633.
[2] Interpol Environmental Crime Programme, *Guide to Carbon Trading Crime* (Interpol 2013) 11.
[3] Ibid 17.
[4] Ibid 22.

distinguishing between a carbon tax (money that is actually levied on the product, such as petrol), and between a carbon pricing structure. Karapin points out that it is "more difficult to get public acceptance for carbon tax" because of the "highly visible costs", but then advises that the emissions trading schemes tend to be more accepted as they are effectively camouflaged from the electorate.[5] Even when considering these issues within a single country, figures showing the impacts of carbon taxation are still not easy to analyse, partly owing to the wide variation of carbon produced in different nations such as Australia with its 70% use of coal for electricity generation.[6] When considering change within a particular nation over many years, there are still anomalies. For example, between 1990 and 1995 Sweden showed a 15% reduction in carbon after introducing a high carbon tax.[7] By contrast, when Norway implemented a similar tax, it resulted in an *increase* in CO_2 which is probably explicable by the near doubling of Norway's GDP over that same timescale.[8] Disasters and fears, such as the Fukushima accident in Japan, can cause the public to turn away from nuclear power, and possibly towards higher carbon sources.[9]

An apposite summary is provided by Geroe, who states that there is, "at present…no conclusive evidence as to exactly which carbon tax design features offer maximum emissions reduction with minimal impacts on stakeholders".[10] Overall, perhaps the influence of politics upon such carbon trading schemes and carbon levies has simply become too pervasive, as Karapin points out when analysing the impact of carbon taxes on election results.[11] Globally, attempts have

[5] R Karapin 'The Political Viability of Carbon Pricing: Policy Designing and Framing in British Columbia and California' (2020) Review of Policy Research 12373, 6.
[6] B Baltagi, G Bresson and J Etienne, 'Carbon Dioxide Emissions and Economic Activities: A Mean Field Variational Bayes Semiparametric Panel Data Model with Random Coefficients' (2019) 134 Annals of Economics and Statistics 43, 51.
[7] S Sumner, L Bird and H Smith, 'Carbon taxes: A Rev of experience and policy design considerations', (Technical Report NREL/TP-6A2-47312) as cited in S Geroe, 'Addressing Climate Change Through a Low-cost, High Impact Carbon Tax' (2019) 28(1) Journal of Environment and Development 3, 9.
[8] Geroe ibid 9.
[9] S Lee et al, 'An economic assessment of carbon tax reform to meet Japan's NDC target under different nuclear assumptions using the E3ME model' (2018) 20 Environ Econ Policy Stud 411, 416.
[10] Geroe (n 7) 5.
[11] Karapin (n 5) 9.

been made by both the Stern review and the Nordhaus review to ascertain the social cost of carbon in the future which differ widely; the former $312 per tonne carbon and the latter $30 per tonne.[12] Nevertheless, even these two studies, critical of each other, both recognise that climate change is "a serious issue, requiring large adjustments in the global economy".[13]

UK carbon taxes

The Carbon Reduction Scheme was introduced in the UK as a way of targeting the big users of energy. For heavy users, it allocated a limit of carbon use which could be traded between themselves. This, it is submitted, did not address the actual issues of energy saving measures which could have been used to genuinely reduce energy use, and the scheme was abandoned in 2018, replaced by the Streamlined Energy and Carbon Reporting framework (SECR).[14] Broadly, SECR will require large corporations to submit details of their carbon use and carbon reduction strategy each year at Companies House for public viewing. The former CRC scheme in particular was initially described in glowing terms on the Government's website, with Manchester United and Centre Parcs being cited as examples for the rest of the UK to follow.[15] The take-up, however, was low, and the CRC scheme was soon ended. No single reason can be identified as to why it was withdrawn, other than perhaps due to the political desires of those in power in 2018, and as Lawton comments, the "existing legal scholarship on the CRC is sparse".[16] But in its lifespan of just a few years, it was one of many such schemes which, according to Houldsworth, "swamped" the UK,[17] and Houldsworth points out that it will be some time before

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[12] S Smith, *Environmental Economics: A very short introduction* (OUP 2011) 109.
[13] Ibid 111.
[14] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/850130/Env-reporting-guidance_inc_SECR_31March.pdf Accessed 15th April 2022.
[15] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/48532/3434-centre-parcs-crc-case-study.pdf Accessed 22nd September 2021.
[16] A Lawton, 'Green taxation theory in practice: The 2012 reform of the carbon reduction commitment' (2016) 18(2) Environmental Law Rev 126, 127.
[17] A Houldsworth, 'Do we need a replacement for the Carbon Reduction Commitment Energy Reduction Scheme?' (2018) 20(4) Environmental Law Rev 199, 201.

it is clear whether its successor, SECR, will prove to have a positive impact.[18] One further issue is that the distinction is not always clear between carbon taxes and carbon levies, as revealed by Silverman's comments that the CRC had an ambiguous status, in that it "is possible that it is [a tax]".[19] Whilst at first sight such a distinction may not seem to be relevant, it is of great importance in some circumstances in, for example, construing service charge provisions to see whether the tenant or landlord should ultimately pay the CRC allowance.[20] Such ambiguities add further confusion to an already confused area of law.

In a similar way, the Green Deal was a UK-based amortisation scheme, whereby improvements to make a property energy efficient were carried out and paid for in advance by Government funding, the cost of those works then being recouped by the business or home owner repaying the loan over the next few years. In theory, the Green Deal seemed to be a more accurate match to plug the weaknesses in the split incentive problem outlined below,[21] in that the Green Deal allowed tenants to pay for works cheaply, and thus recover some of their energy costs whilst they were making payments. However, this soon became yet another moribund scheme, so much so that Jenkins et al[22] found a take up of only 2% in the first few years. Although Jenkins' findings are revisited later on in this thesis to ascertain the validity of EPC ratings, their initial findings for the Green Deal's lack of accuracy are of use in understanding why it never caught on, since the theoretical savings shown by the Green Deal in terms of heating bills (which were used to calculate the interest rate payable) simply did not accord with the actual savings.[23]

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[18] Ibid.
[19] F Silverman, R Hewitson and A Rodell, *The Conveyancing Handbook* (24th edn, The Law Society 2017) 736.
[20] Ibid 737 fn 10.
[21] Se 1.4.
[22] D Jenkins, S Simpson and A Peacock, 'Investigating the consistency and quality of EPC ratings and assessments' (2017) 138 Energy 480, 481.
[23] Ibid.

VAT and SDLT incentives

Fiscal incentives by way of tax reduction or incentives are briefly considered here in the context of whether a reduction in VAT or SDLT might assist landlords or tenants in carrying out EEW. As regards VAT, many freeholders who acquire older buildings are in the position of not having to pay VAT at all on their property. Nonetheless, there is a downside in that they, therefore, cannot recover the VAT which they expend on restoring a property, currently levied at 20%. So, those freeholders may choose to "opt in" the property, that is to choose to have the property made taxable, meaning they are in turn able to recover the VAT that they have paid for refurbishment. This is a double-edged sword since they must charge VAT on their rent to the tenant(s). The landlord's tenants may or may not mind this, depending upon whether they, in turn, can recover the VAT. This is a matter of concern for smaller tenants who will care very much about the extra VAT, and so too will health professionals, insurance brokers, education tenants and banks who can recover little, if any, VAT.

Presently, there are some VAT remission schemes for residential properties which enable a lower rate of VAT to be charged where the works being carried out are of environmental benefit.[24] With home extensions to residential properties this is attractive, since the home-owner will receive a smaller bill. The problem with introducing such a scheme for business premises, however, is that in the commercial context it is often the landlord who carries out the works, whereas the tenant is paying the rent and therefore will be paying the VAT on the rent. Once again, VAT would remain payable only by the tenant. The problem is not entirely solved even if the tenant (not the landlord) were to carry out the works, since it is only if the tenant were a non-VAT registered person that any reduced VAT could be of benefit to them.

[24] HM Revenue and Customs, *Energy saving materials and heating equipment: VAT Notice 708/6*. Accessed 13th May 2020. https://www.gov.uk/guidance/vat-on-energy-saving-materials-and-heating-equipment-notice-7086

A similar problem occurs with Stamp Duty Land Tax (SDLT). As with VAT, the problem with SDLT being used to reward energy efficiency behaviour is that it is ultimately the tenant who pays the tax. Accordingly, where landlords undertake their own energy efficiency work, any reduction in tax will be passed on only to their tenants and not themselves.

In summary then, whilst higher SDLT or VAT rates for leases on buildings which have low EPC gradings could seem an attractive way for a government to both raise revenue and encourage low-carbon building refurbishments, because both these taxes are ultimately paid by tenants, this would merely penalise those tenants who will be taking a lease of older premises that are much more expensive to heat. The typical tenant would then have to pay more not only in heating bills, but in tax. Sadly, whilst carbon taxes or levies may play a part in reducing carbon, by themselves such levies are very unlikely to reduce CO_2 emissions significantly across UK commercial properties.

Appendix B: The MEES Regulations

This Appendix gives an overview of MEES exemptions and enforcement for commercial lettings in 1) and 2), then provides extracts from the Regulations themselves in 3)

1) Exemptions to MEES

The exceptions are broad in nature. Some relate to the length of the lease, so either for very short leases of six months or less, or for long leases of 99 years or more, no EPC is ever needed. Other exemptions relate to the character of the building, and so for temporary buildings or standalone buildings of less than 50 square meters area and for places of worship, there is again no requirement to obtain an EPC. By contrast, other buildings are only potentially exempt; so for example where it is not cost effective to carry out the works, or such works would damage the building, or where the building would be devalued by 5% or more if energy efficiency works were to be undertaken, the landlord can apply for an exemption and, once again, not need an EPC. Much of the detail is as yet unknown, so that it is not known, for example, what 'proof' is required that the works will not be cost-effective for any particular building. If the accompanying recommendations report with their approximate prices for suggested works make it clear that a particular property would be unlikely to recoup the cost of the works within 7 years, for example, can an owner just submit the list of recommendations, for example, that accompany the EPC, when applying for the exemption online? It is believed that this is the case, but surprisingly, no-one is sure. It is possible to apply for more than one exemption. Many exemptions only last for five years, and those that are time-based are normally personal to the particular landlord who applied for it. Accordingly, if the reversion is sold, on or soon after completion, the new owner landlord will have to obtain and register a new exemption, perhaps just months later the first exemption was granted. The system is almost entirely based online, which does have the advantage of being able to find and print off an EPC easily for a particular

property. It does, however, mean that once a landlord has registered online, their certificate can be seen by anyone as it is in the public domain; this itself is quite a 'prompt' for compliance.

2) Enforcement of MEES

Enforcement remains another vague issue. Indeed, at the time of writing, there is effectively no enforcement. In 2019 there were pilot proceedings with four councils, but the results of these seemed inconclusive. However, once enforcement is instituted the fines could be substantial; there is a minimum fine of £5,000 which increases up to 10% of rateable value for anyone who is letting out commercial property with grade F or G. For breaches lasting longer than three months, the minimum fine is £10,000 or 20% of rateable value. Especially for small businesses, such as a small café owner who wants to rent their premises out for a year, such amounts do seem to be unduly punitive.

In practice, it is the lending sector that is now driving the momentum for change, since in much the same way that commercial investors had previously become more concerned about asbestos and fire safety measures over the last few years, they now require an EPC which is E or above. Larger investors are now obtaining their own EPCs for properties whether or not the tenant-to-be has obtained one themselves, and whilst this is commendable in achieving low carbon targets overall, it still leaves smaller investors exposed by comparison. A small SIPP, for example, which is the landlord of an even smaller family business, might find it difficult to raise the capital to carry out expensive energy works to the premises, much less pay a fine of £10,000 or more. Whilst economic arguments are considered only briefly in this thesis, it is suggested that many such smaller landlords might be hit severely by the new regime, as and when it is enforced in full.

3) Extracts From the Energy Efficiency (Private Rented Property) (England and Wales) Regulations 2015/962

PART 1

Introduction

Citation and commencement

1. (1) These Regulations may be cited as the Energy Efficiency (Private Rented Property) (England and Wales) Regulations 2015.

(2) This Part and Part 2 come into force on 1st April 2016, and Part 3 comes into force on 1st October 2016.

General interpretation

2. (1) In these Regulations—

"the Act" means the Energy Act 2011;

"approved methodology" means the methodology of calculation of the energy performance of buildings, approved by the Secretary of State in accordance with regulation 24(1) of the Building Regulations 2010;

"building" means a roofed construction having walls, for which energy is used to condition the indoor climate;

"building unit" has the meaning given in regulation 2(1) of the EPB Regulations;

"central government" has the meaning given in regulation 2 of the Energy Efficiency (Eligible Buildings) Regulations 2013, with the modification that the Scottish Ministers and the Northern Ireland departments are not competent authorities;

"compliance notice" means a notice which complies with regulation 37;

“counter proposal” means a notice which complies with regulation 13;

“domestic PR property”—

(a) has the meaning given in regulation 5 for the purposes of Part 2,

(b) has the meaning given in regulation 19 for the purposes of Part 3;

“energy bill” has the meaning given in regulation 5 of the Framework Regulations;

“energy efficiency improvement”, in relation to a property, means—

(a) a measure for improving efficiency in the use of energy in the property, or

(b) where indicated, a measure installed for the purposes of enabling the supply of gas through a service pipe to the property in any case where the property—

(i) is not fuelled by mains gas, and

(ii) is situated within 23 metres from a relevant main of a gas transporter;

“energy performance indicator” has the meaning given in regulation 11 of the EPB Regulations;

“enforcement authority” has the meaning given in regulation 34(1);

“the EPB Regulations” means the Energy Performance of Buildings (England and Wales) Regulations 2012;

“the Framework Regulations” means the Green Deal Framework (Disclosure, Acknowledgment, Redress etc.) Regulations 2012;

“gas” has the meaning given in section 90(1) of the Act;

“gas transporter” has the meaning given in section 7(1) of the Gas Act 1986;

“green deal installer” means a person authorised to act as a green deal installer in accordance with regulation 8 of the Framework Regulations;

“green deal report” means a report produced pursuant to a qualifying assessment;

“improvement notice” means a notice served under section 11 or section 12 of the Housing Act 2004(6) where—

(a) the time for compliance with the notice has not expired, or

(b) the notice has been appealed, and the appeal has not been determined;

“independent”, in relation to a person, means—

(a) where a landlord or a superior landlord is an individual, a person who is not a spouse or civil partner of that landlord or that superior landlord (as the case may be), or

(b) where a landlord or a superior landlord is not an individual, a person who is not, and has not been in the last 12 months—

(i) a director, partner, shareholder or employee of, or other person exercising management control over, that landlord or that superior landlord, or

(ii) a spouse or civil partner of a person falling within paragraph (i);

“L”, for the purposes of regulation 37 and Chapters 6 and 7 of Part 3, means a person who is a landlord, or a former landlord;

“landlord”—

(a) has the meaning given in regulation 7(b) for the purposes of Part 2,

(b) has the meaning given in regulation 21(b) for the purposes of Part 3;

“landlord’s full response” has the meaning given in regulation 12(1)(c);

“landlord’s initial response” has the meaning given in regulation 12(1)(a);

“local authority” means a local authority within the meaning given in section 106 of the Localism Act 2011;

“mains gas” is a supply of the kind mentioned in section 5(1)(b) of the Gas Act 1986(8);

“market value” has the meaning given in section 272(1) of the Taxation of Chargeable Gains Act 1992;

“minimum level of energy efficiency” has the meaning given in regulation 22(b);

“non-domestic PR property” has the meaning given in regulation 20;

“penalty notice” means a notice which complies with regulation 38;

“property” means a building or a building unit;

“PRS Exemptions Register” means the system established and maintained in accordance with regulation 36(1);

“publication penalty” has the meaning given in regulation 39(1);

“qualifying assessment” has the meaning given in section 3(9) of the Act;

“recommendation report” has the meaning given in regulation 4(1) of the EPB Regulations;

“relevant energy efficiency improvements”—

(a) has the meaning given in regulation 6 for the purposes of Part 2,

(b) has the meaning given in regulation 24 for the purposes of Part 3 in relation to a domestic PR property,

(c) has the meaning given in regulation 28 for the purposes of Part 3 in relation to a non-domestic PR property;

“relevant main” has the meaning given in section 10(12) of the Gas Act 1986(9);

“relevant person” means an independent architect, chartered engineer, chartered building surveyor or chartered architectural technologist, who is registered on any of—

(a) the Royal Institution of Chartered Surveyors' Building Conservation Accreditation register,

(b) the Architect Accredited in Building Conservation register,

(c) the Institution of Civil Engineers' and the Institution of Structural Engineers' Conservation Accreditation Register for Engineers, and

(d) the Chartered Institute of Architectural Technologists' Directory of Accredited Conservationists;

"responsible person" means—

(a) where the landlord is an individual, that person,

(b) where the landlord is a company within the meaning given in section 1 of the Companies Act 2006, a director within the meaning of section 250 of that Act, or

(c) in any other case, a person exercising management control in relation to the landlord;

"service pipe" has the meaning given in section 48(1) of the Gas Act 1986;

"sub-standard" has the meaning given in regulation 22(a);

"superior landlord" has the meaning given in regulation 7(c);

"superior landlord's response" has the meaning given in regulation 11(5);

"surveyor" means a surveyor who is on the Royal Institution of Chartered Surveyors' register of valuers(16);

"tenant"—

(a) has the meaning given in regulation 7(a) for the purposes of Part 2,

(b) has the meaning given in regulation 21(a) for the purposes of Part 3;

“tenant’s request” means a notice which complies with regulation 8;

“third party consent” means consent, permission or approval which is required before an energy efficiency improvement can be made, including in particular—

(a) the consent of any tenant of the property or, where the property is one of two or more properties comprised in a building, the consent of a tenant or other occupier of any of those properties,

(b) the consent of any person who has a charge over the landlord’s, or a superior landlord’s, interest in the property,

(c) the consent of any superior landlord,

(d) planning permission, approval or consent required under the Town and Country Planning Act 1990, and

(e) consent required as a result of the property being listed in accordance with section 1 of the Planning (Listed Buildings and Conservation Areas) Act 1990, or in a conservation area designated in accordance with section 69 of that Act;

“valid”, in relation to an energy performance certificate, has the meaning given in regulation 22(c);

“value added tax” has the meaning given in section 1 of the Value Added Tax Act 1994.

…

(4) Nothing in these Regulations affects any duty to carry out works to a property (including works to repair or to improve) imposed on a tenant, a landlord, or a superior landlord, by the terms of a tenancy agreement or by any other enactment.

…

PART 3

Minimum level of energy efficiency

CHAPTER 1

Interpretation of Part 3

Non-domestic PR property

20. (1) For the purposes of this Part, "non-domestic PR property" means a property which falls within section 42(1)(b) of the Act, subject to paragraphs (2) and (3).

(2) A property is not a non-domestic PR property if—

(a) it was not required, and is not part of a building which was required, to have an energy performance certificate by the Energy Performance of Buildings (Certificates and Inspections) (England and Wales) Regulations 2007, and

(b) it is not required, and is not part of a building which is required, to have an energy performance certificate by the Building Regulations 2010 or the EPB Regulations.

(3) A property is not a non-domestic PR property if it is let—

(a) on a tenancy granted for a term certain not exceeding six months, unless—

(i) the tenancy agreement contains provision for renewing the term or for extending it beyond six months from its beginning, or

(ii) at the time when the tenancy is granted, the tenant has been in occupation for a continuous period which exceeds 12 months, or

(b) on a tenancy granted for a term certain of 99 years or more.

…

CHAPTER 3

Non-domestic PR property falling below the minimum level of energy efficiency

Prohibition on letting of sub-standard non-domestic PR property

27. (1) A landlord of a sub-standard non-domestic PR property must not let the property unless regulation 29, or one or more of the exemptions in Chapter 4, applies.

(2) For the purposes of paragraph (1), "let the property" means—

(a) on or after 1st April 2018, grant a new tenancy which falls within section 42(1)(b) of the Act, or let the property on such a tenancy as a result of an extension or renewal of an existing tenancy, or

(b) on or after 1st April 2023, continue to let the property on such a tenancy.

Relevant energy efficiency improvements

28. (1) Subject to paragraph (2), for the purposes of paragraph (a) in the definition of "relevant energy efficiency improvements" in section 49(4) of the Act, a relevant energy efficiency improvement is an energy efficiency improvement—

(a) which is listed in—

(i) the Schedule to the Green Deal (Qualifying Energy Improvements) Order 2012, or

(ii) Table 6 of the Building Regulations Approved Document L2B, and

(b) has been identified as a recommended improvement for that property in a green deal report, a recommendation report, or a report prepared by a surveyor.

(2) An energy efficiency improvement which falls within any of paragraphs (d), (n) or (v) of the Schedule to the Green Deal (Qualifying Energy Improvements) Order 2012 is not a relevant energy efficiency improvement where the landlord has obtained a written opinion from—

(a) a relevant person, or

(b) an independent installer of the energy efficiency improvement in question who meets the relevant installer standards,

advising that it is not an appropriate improvement, due to its potential negative impact on the fabric or structure of the non-domestic PR property, or the building of which it forms part, and the landlord has registered information in accordance with regulation 36(2).

(3) For the purposes of paragraph (b)(ii) in the definition of "relevant energy efficiency improvements" in section 49(4) of the Act, an energy efficiency improvement listed in Table 6 of the Building Regulations Approved Document L2B is a relevant energy efficiency improvement for a property where the improvement would achieve a simple payback of seven years or less.

(4) A relevant energy efficiency improvement achieves "a simple payback of seven years or less", if it is calculated that the value of savings ("S") is the same as or greater than the calculated repayment cost ("R").

(5) For the purposes of paragraph (4), S is the value of savings on energy bills for the property that the relevant energy efficiency improvement is expected to achieve over a period of seven years beginning with the date of the completion of the installation of the improvement, calculated—

(a) using the approved methodology,

(b) using relevant energy prices.

(6) For the purposes of paragraph (4), R is the cost of the relevant energy efficiency improvement ("C"), multiplied by the interest rate factor ("F"), where—

(a) C is the sum of—

(i) the cost of purchasing the improvement, and

(ii) the cost of installing the improvement (including labour costs), calculated using labour and installation costs as at the date the calculation is made,

excluding value added tax, and

(b) F is calculated as follows—

$$F = \frac{i}{1-(1+i)^{-7}} \times 7$$

where *i* is the Bank of England base rate in force at the time of the calculation.

(7) For the purposes of paragraph (5), a "relevant energy price", in relation to a supply of energy to a property, means the "unit cost" of the supply of that energy to the property, excluding value added tax—

(a) where the landlord has energy bills for the supply of that energy to the property for the 12 month period which ends on the date of the most recent energy bill for that supply, calculated by dividing the total cost of the supply of that energy for that 12 month period (including any fixed cost charged by the supplier of that energy), by the number of units supplied in that 12 month period,

(b) where the landlord has energy bills for the supply of that energy to the property for a period of less than 12 months in the 15 month period which ends on the date that the calculation is made, calculated by—

(i) estimating the total cost of the supply of that energy for the 12 month period which ends on the date that the calculation is made (including any fixed cost charged by the supplier of that energy) ("EC"), and the number of units of that energy that would be supplied in that 12 month period ("EU"), based on those energy bills, and

(ii) dividing EC by EU, or

(c) where the landlord has no energy bills for the supply of that energy to the property for the 12 month period which ends on the date the calculation is made, using the cost per unit for the supply of that energy charged by the landlord's current, or intended, supplier of that energy on the date the calculation is made.

(8) In paragraph (6), "Bank of England base rate" means—

(a) the rate announced from time to time by the Monetary Policy Committee of the Bank of England as the official dealing rate, being the rate at which the Bank is willing to enter into transactions for providing short term liquidity in the money markets, or

(b) where an order under section 19 of the Bank of England Act 1998 is in force, any equivalent rate determined by the Treasury under that section.

Relevant energy efficiency improvements undertaken

29. (1) Subject to paragraph (2), this regulation applies where—

(a) the landlord of a sub-standard non-domestic PR property has made all the relevant energy efficiency improvements for the property, or

(b) there are no relevant energy efficiency improvements that can be made to the property.

(2) This regulation applies for a period of five years starting with the date on which the landlord registers information in accordance with regulation 36(2).

Sub-standard property let in breach of these Regulations

30. In any case where a landlord lets, or continues to let, a non-domestic PR property in breach of regulation 27, that breach does not affect the validity or enforceability of any provision of the tenancy.

CHAPTER 4

Exemptions – domestic and non-domestic PR property

Consent exemption

31. (1) Subject to paragraph (2), regulations 23 and 27 do not apply at any time when the landlord has, within the preceding five years, been unable to increase the energy performance indicator for the property to not less than the minimum level of energy efficiency as a result of—

(a) the tenant refusing—

(i) consent to any relevant energy efficiency improvement being made, or

(ii) to give any confirmation which must be obtained from the tenant by virtue of regulation 36 of the Framework Regulations before any green deal plan with which the landlord proposed to fund the making of the relevant energy efficiency improvement could be entered into, or

(b) despite reasonable efforts by the landlord to obtain third party consent, that consent having been—

(i) refused, or

(ii) granted subject to a condition with which the landlord cannot reasonably comply.

(2) A landlord may rely on the exemption in paragraph (1) only where the landlord has registered information in accordance with regulation 36(2).

Devaluation exemption

32. (1) Subject to paragraph (3), regulations 23 and 27 do not apply at any time when, within the preceding five years, the landlord been unable to increase the energy performance indicator for the property to not less than the minimum level of energy efficiency because paragraph (2) applies.

(2) This paragraph applies where the landlord has not made a relevant energy efficiency improvement because the landlord has obtained a report prepared by an independent surveyor which states that making that relevant energy efficiency improvement would result in a reduction of more than 5% in the market value of the property, or of the building of which it forms part.

(3) A landlord may rely on the exemption in paragraph (1) only where the landlord has registered information in accordance with regulation 36(2).

Temporary exemption in certain circumstances

33. (1) Subject to paragraph (5), regulations 23 and 27 do not apply to a landlord until six months after whichever is the later of—

(a) the date on which the landlord becomes, or continues to be, the landlord of that property by virtue of any of the circumstances set out in paragraph (2), or

(b) the date on which an order falling within paragraph (2)(f) is made.

(2) The circumstances referred to in paragraph (1) are—

(a) the grant of a lease pursuant to a contractual obligation,

(b) a tenant's insolvency, by virtue of the landlord having been the tenant's guarantor,

(c) the landlord having been a guarantor, or a former tenant, who has exercised the right to obtain an overriding lease of a property pursuant to section 19 of the Landlord and Tenant (Covenants) Act 1995,

(d) the deemed creation of a new lease by operation of law,

(e) the grant of a new lease pursuant to the provisions of Part 2 of the Landlord and Tenant Act 1954,

(f) the grant of a lease by order of the court not falling within sub-paragraph (e).

(3) Subject to paragraph (5), regulation 23(2)(b) and regulation 27(2)(b) do not apply to a person until six months from the date on which the person becomes the landlord by virtue of the circumstances set out in paragraph (4).

(4) The circumstances referred to in paragraph (3) are—

(a) the landlord became the landlord of the domestic PR property, or non-domestic PR property (as the case may be), on purchasing an interest in that property, and

(b) on the date of the purchase, the property was let on an existing tenancy.

(5) A landlord may rely on a temporary exemption in paragraph (1) or paragraph (3) only where the landlord has registered information in accordance with regulation 36(2).

CHAPTER 5

Enforcement Authorities and Compliance – domestic and non-domestic PR property

Enforcement authorities

34. (1) In this Part "enforcement authority"—

(a) in relation to a domestic PR property means a local authority,

(b) in relation to a non-domestic PR property means a local weights and measures authority.

(2) An enforcement authority must enforce compliance with the requirements of this Part in relation to properties in its area.

Authorised officers

35. Where an enforcement authority appoints an authorised officer of that enforcement authority to exercise its powers under this Chapter, except in this regulation any reference to an "enforcement authority" is to be read as including a reference to that authorised officer of that enforcement authority.

PRS Exemptions Register

36. (1) The Secretary of State must establish and maintain a system (the "PRS Exemptions Register") which enables—

(a) information to be registered in accordance with paragraph (2) or regulation 37(2),

(b) the Secretary of State and enforcement authorities to access information registered on it, and held on it, as necessary to enable them to carry out their functions under these Regulations, and

(c) the Secretary of State to publish the following information relating to any domestic PR property, or non-domestic PR property, in respect of which information has been registered in accordance with paragraph (2)—

(i) the address of the property,

(ii) where the landlord is not an individual, the name of the landlord,

(iii) the exemption relied on,

(iv) a copy of the valid energy performance certificate for the property,

(v) the date on which information was registered in accordance with paragraph (2), and

(d) every enforcement authority to publish information in accordance with regulation 39.

(2) In any case where a landlord of a sub-standard domestic PR property, or a sub-standard non-domestic PR property, wishes to rely on one or more of the following regulations, the landlord must register the information set out in the Schedule on the PRS Exemptions Register—

(a) regulation 24(2),

(b) regulation 25,

(c) regulation 28(2),

(d) regulation 29,

(e) regulation 31(1),

(f) regulation 32(1),

(g) regulation 33(1) or (3).

Compliance notices

37. (1) An enforcement authority may, on or after 1st April 2018, serve a notice (a "compliance notice") on L where L appears to it to be, or to have been at any time within the 12 months preceding the date of service of the compliance notice, in breach of one or more of the following—

(a) regulation 23,

(b) regulation 27,

requesting such information as it considers necessary to enable it to monitor compliance with this Part.

(2) A compliance notice may in particular request L to produce for inspection originals, or copies, of the following—

(a) the energy performance certificate for the property which was valid at the time the property was let,

(b) any other energy performance certificate for the property in L's possession,

(c) any current tenancy agreement under which the property is let,

(d) any qualifying assessment in relation to the property,

(e) any other document which the enforcement authority considers necessary to enable it to carry out its functions under this Part,

and may request L to register copies of any of them on the PRS Exemptions Register

(3) A compliance notice must specify—

(a) the name and address of the person to whom the documents or other information required must be provided, and

(b) the date by which they must be provided which must be no less than one month from the date on which the compliance notice is served.

(4) L must—

(a) comply with the compliance notice, and

(b) allow the enforcement authority to take copies of any original document produced.

(5) A compliance notice may be varied or revoked in writing at any time by the enforcement authority that issued it.

(6) An enforcement authority may take into account any information held by it, whether or not provided to it in accordance with this regulation, in determining whether L has complied with this Part.

CHAPTER 6

Penalties – domestic and non-domestic PR property

Penalty notices

38. (1) An enforcement authority may, on or after 1st April 2018, serve a notice on L (a "penalty notice") in any case where it is satisfied that L is, or has been at any time in the 18 months preceding the date of service of the penalty notice, in breach of one or more of the following—

(a) regulation 23,

(b) regulation 27,

(c) regulation 37(4)(a),

imposing a financial penalty, a publication penalty, or both a financial penalty and a publication penalty, in accordance with this Chapter.

(2) A penalty notice must—

(a) specify the provision of these Regulations which the enforcement authority believes L has breached,

(b) give such particulars as the enforcement authority considers necessary to identify the matters constituting the breach,

(c) specify—

(i) any action the enforcement authority requires L to take to remedy the breach,

(ii) the period within which such action must be taken,

(d) specify—

(i) the amount of any financial penalty imposed and, where applicable, how it has been calculated,

(ii) whether the publication penalty has been imposed,

(e) require L to pay any financial penalty within a period specified in the notice,

(f) specify the name and address of the person to whom any financial penalty must be paid and the method by which payment may be made,

(g) state the effect of regulations 42 to 45, and

(h) specify—

(i) the name and address of the person to whom a notice requesting a review in accordance with regulation 42 may be sent (and to whom any representations relating to the review must be addressed), and

(ii) the period within which such a notice may be sent.

(3) Each of the periods specified under paragraph (2)(c) and (e) must not be less than one month, beginning on the day on which the penalty notice is served.

(4) Where L fails to take the action required by a penalty notice within the period specified in that penalty notice in accordance with paragraph (2)(c), the enforcement authority may issue a further penalty notice.

Publication penalty

39. (1) In this Chapter, the "publication penalty" means publication on the PRS Exemptions Register of such of the following information in relation to a penalty notice as the enforcement authority decides—

(a) where L is not an individual, L's name,

(b) details of the breach of these Regulations in respect of which the penalty notice has been issued,

(c) the address of the property in relation to which the breach has occurred, and

(d) the amount of any financial penalty imposed.

(2) The information in paragraph (1) must be published for a minimum period of 12 months, and may be published for such longer period as the enforcement authority may decide.

(3) A publication penalty does not take effect until—

(a) the period specified for requesting a review under regulation 38(2)(h)(ii) has expired or, where a review has been requested, the enforcement authority has not served notice of its decision under regulation 42(2)(c), and

(b) the period specified for any appeal against the penalty notice has expired or, where an appeal is made, until the appeal has been determined.

Breaches in relation to domestic PR property…[omitted]

Breaches in relation to non-domestic PR property

41. (1) The penalties set out in this regulation apply where L is, or was, the landlord of a non-domestic PR property.

(2) Where L has breached regulation 27 and, at the time the penalty notice is served has, or had, been in breach for less than three months, the penalties are—

(a) a financial penalty not exceeding whichever is the greater of—

(i) £5,000, and

(ii) 10% of the rateable value of the property,

provided that the financial penalty must not exceed £50,000, and

(b) the publication penalty.

(3) Where L has breached regulation 27 and, at the time the penalty notice is served has, or had, been in breach for three months or more, the penalties are—

(a) a financial penalty not exceeding whichever is the greater of—

(i) £10,000, and

(ii) 20% of the rateable value of the property,

provided that the financial penalty must not exceed £150,000, and

(b) the publication penalty.

(4) Where L has registered false or misleading information under regulation 36(2), or has failed to comply with a compliance notice in breach of regulation 37(4)(a), the penalties are—

(a) a financial penalty not exceeding £5,000, and

(b) the publication penalty.

(5) In this regulation—

"local non-domestic rating list" means a local non-domestic rating list maintained in accordance with section 41 of the Local Government Finance Act 1988,

“rateable value”, in relation to a non-domestic PR property, means the rateable value shown for the property on a local non-domestic rating list at the time the penalty notice is served.

Edward Davey

Secretary of State

Department of Energy and Climate Change

26th March 2015

3) SCHEDULE Information to be registered on the PRS Exemptions Register

1. The information referred to in regulation 36(2) to be registered where regulation 25 or regulation 29 applies is—

(a) the name, address, email address and telephone number of the landlord,

(b) the address of the property,

(c) which provision or provisions of regulations 25 and 29 applies,

(d) a copy of the valid energy performance certificate for the property,

(e) details of any energy efficiency improvement identified as a recommended improvement for the property in a green deal report, a recommendation report, or a report prepared by a surveyor,

(f) where the landlord relies on regulation 25(1)(a) or regulation 29(1)(a), details of any relevant energy efficiency improvements undertaken and the date on which they were completed,

(g) where the landlord has not made an energy efficiency improvement, in reliance on regulation 24(2) or regulation 28(2), a copy of any written opinion described in regulation 24(2) or regulation 28(2) (as appropriate),

(h) where the landlord has not made an energy efficiency improvement which was identified as a recommended improvement for the property in a green deal report, a recommendation report, or a report prepared by a surveyor, on the grounds that it does not fall within the definition of "relevant energy efficiency improvements" in section 43(4) of the Act and regulation 24(3), or in section 49(4) of the Act, a copy of any evidence on which the landlord relies to demonstrate that the energy efficiency improvement is not a relevant energy efficiency improvement for the property, and

(i) where the landlord has not made an energy efficiency improvement which was identified as a recommended improvement for that property in a green deal report, a recommendation report, or a report prepared by a surveyor, and which is listed in Table 6 of the Building Regulations Approved Document L2B, on the grounds that it would not achieve a simple payback of seven years or less—

(i) copies of three quotations for the cost of purchasing and installing the improvement from installers of that improvement who meet the relevant installer standards, which demonstrate that fact, and

(ii) the name of the responsible person (or, where two or more persons are the landlord, the name of the responsible person in relation to each landlord), and confirmation that the responsible person (or each of them) is satisfied of that fact.

2.—(1) The information referred to in regulation 36(2) to be registered where regulation 31(1) or regulation 32(1) applies is—

(a) the name, address, email address and telephone number of the landlord,

(b) the address of the property,

(c) which of regulations 31(1) and 32(1) applies,

(d) a copy of the valid energy performance certificate for the property,

(e) where the landlord relies on regulation 31(1), a copy of any correspondence and documents evidencing that—

(i) consent was required and sought, and

(ii) consent was refused or granted subject to a condition with which the landlord could not reasonably comply,

(f) where the landlord relies on regulation 32(1), a copy of any report described in paragraph (2) of that regulation.

(2) The information required by paragraph (1) must be registered before the landlord lets the property within the meaning of regulation 23 or regulation 27 (as the case may be).

3. The information referred to in regulation 36(2) to be registered where regulation 33(1) or (3) applies is—

(a) the name, address, email address and telephone number of the landlord,

(b) the address of the property,

(c) whether paragraph (1) or (3) of regulation 33 applies,

(d) a copy of any valid energy performance certificate for the property,

(e) the date on which the landlord became, or continued to be, the landlord by virtue of a circumstance in regulation 33(2) or 33(4).

Appendix C: NABERS

This Appendix overviews the NABERS (UK) scheme which is being trialled in the UK from Australia, and which broadly measures the actual energy use of a building

The UK NABERS scheme

Up until the time of writing this thesis, an EPC was the only way of assessing a building for energy efficiency in the UK. Nevertheless, a second system is now being actively considered by the Government, which is the National Australian Buildings Energy Rating Scheme or NABERS. Since 2020, NABERS has had a UK-based scheme, which is being used to trial the NABERS system within the UK and whilst much of their initial research related to London properties, other regions could possibly be included in the NABERS scheme in the future. What follows here is only a brief summary of NABERS because this is an unproved scheme in the UK.

It will be recollected from Chapter One that the NABERS scheme does not have a pass or fail grade, but allocates up to six stars depending upon how energy efficient the building is found to be, and it will also be recalled that the NABERS system focuses on actual energy consumption, unlike the equivalent calculations in an EPC which relate only to a purely notional building. When discussing the UK's building stock[25] the DfP Base Building report makes the point that in Australia, the "commercial office market is remarkably homogeneous, as essentially all reasonable quality office buildings – commercial, governmental or institutional – are provided with both heating and cooling and are generally serviced similarly".[26] By contrast, "the UK's office building sector is not homogenous in its scale, quality, or environmental conditioning services". The report itself, comprised solely of data from BBP members[27] admits that its data is heavily skewed towards London since five-sixths of the respondent data come from London,[28]

[25] Verco *DfP Base Building Rating Tool Recommendations Report* (Better Buildings Partnership 2020) 19.
[26] Ibid.
[27] Verco Base Building Report (n 25) 20.
[28] Verco Base Building Rating Tool (n 25) ibid.

though the NABERS UK team have also conducted experiments based in Manchester and Glasgow allowing for different climactic environments where, unsurprisingly, the results varied slightly in those cities due to the colder temperatures.

In broad terms, a NABERS report, whilst containing similar matters to an EPC report, differs in that it is more structured to the actual business use of the property. That is, not only is the area of the office calculated according to a set formula, but also the tenants' use is factored into the calculation. The area is broadly based upon the NIA (Net Internal Area) calculated in a way that is recommended by the RICS, and there are detailed rules as to what is, and is not included. Within an office building, the area is worked out excluding certain spaces (particularly medical or educational spaces). So, an example is given where a city centre office suite which has a gymnasium for its lawyer clients on the first and second floor would have that area included in the rating, whereas an identical gymnasium open to the public on the ground floor would be excluded.

In this respect, NABERS has more in common with the BREDEM[29] system than does SAP, since Kelly highlights that the building performance indicator BREDEM does attempt to incorporate levels of building occupancy, whereas SAP and rdSAP do not.[30] This provides a solution to the empty versus full airliner conundrum,[31] but there are limits to this accuracy, since even though the model takes into account occupancy, it does not take into account the behaviour of building occupants.[32] Although detailed examination of either of these complicated algorithms are beyond the scope of this thesis, NABERS is therefore much more similar to BREDEM, and unlike

[29] Building Research Establishment Domestic Energy Model, which according to the BRE site, shares some characteristics with SAP but allows "users to adjust inputs". https://www.bre.co.uk/page.jsp?id=3176 Accessed 6th April 2022.
[30] S Kelly, D Crawford-Brown and M Pollitt, 'Building performance and evaluation in the UK: is SAP fit for purpose?' (2012) 16 Renewable and Sustainable Energy Review 6861, 6867.
[31] That is, a full airliner and a nearly empty airliner cost almost the same to run on a trip, but the full one is much more efficient in terms of passengers; a situation which the present EPC regime could be compared to.
[32] Ibid (n 30) 6868.

an EPC report, with a NABERS report, the occupancy rate of the building helps determine its rating, since the hours of use of each office floor are worked out by asking each tenant what time their workers start arriving, and taking the working day as starting when at least 20% of their workforce are there. The environmental cost of further hours of use are then worked out using a sliding scale, essentially to allow for the fact that a building that is in use, say, 105 hours per week instead of 35 hours per week (i.e., three times as much), will not be using three times the energy to heat or cool it, but perhaps only around 2 or 2 ½ times.

A NABERS report uses a star rating of between one and six stars to award a building (or part of a building) a rating. Each building is re-rated every twelve months, and there is a grace period of 120 days where the building owners can obtain a new report for the next year's certificate whilst still keeping their renewal date. There is no fail or pass, but there is simply a requirement to make the rating publicly known.[33]

Finally, and crucially, there is a choice of which area to be assessed which will be either i) the whole building or ii) just tenanted parts, or iii) the common parts. This point is important because the NABERS system uses a firmer approach in this regard to that taken by EPC reports. NABERS highlights the need for the building tenancy type (i.e., whether it is a tenancy of whole or part) to be taken into account when assessing energy figures; a crucial distinction, but not one that the UK's landlord and tenant legal system currently takes into account.

Drawbacks to NABERS

There are, however, three potential drawbacks to NABERS if introduced into the UK that may not have been considered yet. They are as follows:

[33] There are detailed rules for including exterior lighting, elevators, and even particular rules for the computer server areas as these are usually running for much of the day in a modern office. These are not outlined here.

i) HVAC issues

Most of the success in the Australian reports appeared to focus upon improving the efficiency in the centralised heating and cooling systems (HVACs) which by their nature will not require significant refurbishment work, expense or inconvenience. By contrast, it will be recalled that this thesis focuses upon the passive measures, which are those which entail refurbishment, often by simply inserting insulation in-between the outer and inner walls, or by ensuring the air-tightness values are reduced by stopping up draughts.

ii) UK building stock

The non-homogeneity of the UK office stock was referred to in the report itself, and even a cursory look round the UK's commercial property stock will enable anyone to see that, whilst there is a rich heritage of diverse buildings, many of these are not easy to categorise (that is, they are not homogeneous). Whilst many of them may very well benefit from an HVAC upgrade to their centralised heating and cooling systems, many more will require refurbishing with extensive passive measures to prevent heat loss, which is the subject of this thesis.

iii) Australian leases

Lastly, Australian leases function in a different way to the UK's commercial market. Firstly, Australia is a federal country, with six separate states which can, to a limited extent, choose what they allow in their commercial leases. This means that there will be some variation from state to state in Australia, which may help to some extent mitigate the differences in climate between the various states in schemes like NABERS. Secondly, there is a tendency to distinguish between retail leases, office leases, and industrial leases in Australia.[34] Arguably, there is also a

[34] The Retail Leases Act 2003, (No 4 of 2003, Victoria State) Authorised Version incorporating amendments at 1st July 2017.

more structured approach to landlord and tenant law which has not been the case within England and Wales which has often legislated on a piecemeal basis.

All these points are a highly succinct summary, but they serve to illustrate the difficulties of transplanting the laws and systems of one country, even a fellow common-law country, to another. Without an understanding of the underlying law of landlord and tenant in England and Wales, and in particular without understanding the interplay between Part II of the Landlord and Tenant Act 1954 upon the renewal of a business tenancy, and Part I of the Landlord and Tenant Act 1927 at the end of a tenancy, it is suggested that any attempt to bring wholesale reform to the commercial property tenanted sector in England and Wales can only be very limited in its success.

Appendix D: Energy Efficiency Matters

This Appendix firstly provides more details about the idea of U-values, secondly gives details of the particular problems in buildings that are presented by glass, thirdly it details other carbon-reducing measures, fourthly overviews some of the main energy efficiency materials now being used, and lastly provides a simple calculation – one for a well-insulated, draught-proofed building and the other for a poorly-insulated draughty building.

a) R values and U values

Thermal transmittance values, or U-values, are used to calculate the transfer of heat from within a building to the outside of the building, or vice versa. Where there are several layers to a surface, such as walls with inner and outer bricks, the U-values of a wall, floor or roof are calculated by first adding the R values[35] of particular materials and then reciprocating the total sum. That is, where a set of R-values need to be added together, usually representing several layers of insulation in a wall, floor or ceiling, one can just add these values up to obtain the total R-value known as R_t:

$$R_t = R_1 + R_2 + R_3$$

The three component R-values, that is, R_1, R_2 and R_3 may not be physical materials, but could include airspaces and so in the example above, R2 could be concrete or brick, but could also be the air gap between the landlord's exterior wall, R1, and the tenant's interior wall R3.[36]

Having found the total heat resistance, the total U value is found by taking the reciprocal:

[35] In heat modelling, R values are similar to resistance values in an electrical circuit.

[36] There is a further step to make this figure entirely accurate, which is that the heat resistance inside the building and the heat resistance outside need to be added in. So, a more accurate figure would be: $R_t = R_{out} + R_1 + R_2 + R_3 + R_{in}$ The two extra values added in at the start and end of the formula demonstrate the refinements of the physics of heat loss, since where the brick meets the outside air (R_{out}) there is a small extra amount of resistance. Likewise, where the plaster or other interior material, meets the inside air (R_{in}) there is another amount of resistance. Since both these values are usually small when compared to the insulation value of the values in the middle, they are ignored for simplicity in this thesis.

$$U_t = \frac{1}{R_t}$$

For parallel values, such as the case where windows are in a wall, which as discussed in the section above have large U-values, the calculation is simply repeated for any different materials in the wall, so that the total heat flow for a building, or for part of a building, is normally worked out by combining several different figures.

It is now common to see minimum U-values specified in heads of terms for building projects and then within the building contracts themselves. For comparison, several examples of common U-values taken from current Building Regulations are shown below.[37]

	Roof (pitched; insulation at rafters)	**Wall (Cavity)**	**Floor**
Old Building/Threshold	0.35	0.70	0.70
After Renovation	0.18	0.30	0.25

The U-values in the first row of the table are higher (that is, these materials conduct more heat and so are less efficient) since they are used for existing buildings where U-values are expected to be high due to the older materials used which are not usually efficient. For comparison, the second row shows typical U-values which ought to be found in buildings after renovation, and which are much lower (i.e., they are more efficient at preventing heat loss). The change in values between the first row and the second may not seem large when compared to the KWh unit (remembering that a KWh is one thousand watt-hours) which is used for measuring units of

[37] H M Government, 'The Building Regulations 2010 Conservation of Fuel and Power in Existing Buildings Other than Dwellings L2B: Approved Document 2010 Edition Incorporating 2010, 2011, 2013 and 2016 Amendments' (sic).

electricity. However, when considering the many square meters of external surface area of any building, and also when realising that the temperature difference between outside and inside could easily reach twenty degrees or more in winter, it becomes apparent that over 24 hours, a great deal of energy is lost. Further reduction in U-values using the latest technology of Vacuum Insulated Panels (VIPs) can lead to U-values of 0.05 or less, though at the moment VIPs are expensive, difficult to install, and since it is difficult to ensure a vacuum is maintained forever, may have a lifetime of just 30 years or so.[38]

b) The particular challenges of glazing

Glazing or non-opaque building envelope

It is appropriate to discuss here the particular energy issues raised by using glass or other transparent material. For the comfort and operational use of buildings by inhabitants, glass is normally needed in outside walls, but both its high U-value and its fragility require special considerations in design. Similarly, glazing is often handled differently to concrete and bricks when calculating embodied energy figures; Tagliabue's research, for example, uses two different tables for comparing the amount of energy required for building and disposing of transparent and opaque envelopes.[39] When considering the impact of glass's high U-value during the lifetime of a building, it is widely known that these high values may be reduced by double-glazing (that is, two panes with an air gap in-between) but it is perhaps less widely known that high U-values may be reduced by other emerging technologies such as low emissivity windows with an additional coating to reflect longer light wavelengths such as infra-red.[40] In roofs, aerogel

[38] F Mara, 'Thermal Insulation: Vacuum Insulated Panels' Architects Journal 4th February 2010. Accessed 23rd October 2021. https://www.architectsjournal.co.uk/archive/thermal-insulation-vacuum-insulated-panels

[39] L C Tagliabue and others, 'Techno-economical Analysis based on a Parametric Computational Evaluation for decision process on envelope technologies and configurations', Energy and Buildings (2018) 158 736, 739.

[40] T Gao, B Jelle and A Gustavsen, 'Nanomaterials for Advanced Glazing Technologies' (CISBAT 2011, Cleantech for sustainable buildings: From nano to urban scale. EPFL (Ecole Polytechnique Federale de Lausanne), MIT and Cambridge University, Lausanne, Switzerland 14th to 16th September 2011) 57.

skylights are now beginning to be used.[41] Whilst the light dissipation and therefore lack of view would be disadvantageous in windows in walls, by contrast using such materials within skylights is of benefit since there is no view and the light is dissipated more evenly.[42] Combining such technologies with using heavier noble gases in-between the panes, such as argon or krypton, means that the U-values of double-glazing units can now be as low as 0.5 $Wm^{-2}K$,[43] although because such glazing technology is expensive other passive measures may be better utilised. Similar conclusions have been reached by Prabatha and others, for example, who find that double-glazing is generally of less economic and environmental use in reducing emissions, whereas airtightness improvements bring "positive economic and environmental outcomes".[44] In contrast to the findings previously for non-opaque materials, improving the energy efficiency of a building by using retrofitted glazing techniques does seem to be somewhat more expensive and less effective, though because such glazed materials are used mainly for the comfort and convenience of any building's occupants, glass normally does need to form part of any refurbishment project in commercial properties. One implication of this need to use glazed materials in many refurbishments is the likely need to support extra windows and rooflights by utilizing other parts of the structure, and since in some buildings (including the fictitious example), this raises novel questions of whether it is now desirable to be able to force changes to the lease definitions, particularly the definitions of the extent of demised property.

[41] Ibid 58.
[42] Ibid 58.
[43] Ibid 57.
[44] T Prabatha *et al*, 'To retrofit or not: Making energy retrofit decisions through life cycle thinking for Canadian residences', (2020) 226 Energy and Buildings 110393, 13.

c) Special Materials: Phase Change Materials, Vacuum Panels and Photovoltaic Panels

Phase Change Materials (PCMs)

Phase Change Materials, or PCMs take advantage of the large amount of energy that is required to convert a substance from a solid into a liquid. Using the same principle as water which takes 334,000 Joules of energy to convert 1 kilogramme from ice to water, wax-based substances are being used, in both hot and cold countries, to ensure cooling or heating of buildings. An ideal PCM can solidify and melt millions of times, and in so doing will absorb and then release large quantities of heat, by using encapsulated cells which continually melt and freeze to absorb and release heat. They are presently the most researched materials of the heat-retention sector.[45] Indeed, such is the effectiveness of PCMs heat absorbing properties that using a mixture of just 3.5% of decanoic acid within mortar/brick joints was found to be highly effective, producing a temperature difference of several degrees between the internal and external temperatures.[46] The applications of such materials are wide-ranging. Movable blinds of PCMs are being used between double-skinned facade (DSF) buildings to improve the comfort of the occupants,[47] and other projects are starting to use PCMs within skylights.[48] Whilst PCMs are not without potential disadvantages such as leaking[49] or, in very hot climates, PCMs that fail to re-solidify overnight, in which case the PCM cannot be used to absorb any more heat energy the next morning, [50]

[45] S Wi and others, 'Climatic cycling assessment of red clay/perlite and vermiculite composite PCM for improving thermal inertia in buildings' (2020) 167 Building and Environment 106464 1.
[46] W Jiang and D Liu, 'Phase Change Material Used for Masonry Joints to Reduce the Thermal Bridge Effect' (2019) 12 Materials 1895, 8.
[47] Y Li and others, 'Effect of design parameters on thermal performance of integrated phase change material blind system for double skin façade buildings' (2019) 14 International Journal of Low-Carbon Technologies 286, 287.
[48] J L Aguilar Santana and others, 'Rev on window glazing technologies and future prospects' (2020) 15 International Journal of Law Carbon Technologies 112, 118.
[49] R Yashid, 'The potential of phase change materials' (2019) 14 International Journal of Low-Carbon Technologies 568, 574.
[50] Ibid.

nevertheless, they do represent a way forward in refurbishing passive commercial property buildings.

Vacuum Insulated Panels (VIPs)

These are panels which are thin, and much like a thermos flask, utilise a vacuum inside the material in order to ensure very low U-values (i.e. very high insulation). They are expensive, and have only appeared on the market in the last few years. However, they do offer a very high amount of insulation compared to most other materials.

Photovoltaic Panels

Likewise, photovoltaic panels are becoming an increasingly common sight in the UK on roofs. These use highly refined silicon which, when exposed to the sunlight produces a small voltage that can either be used throughout the day within the building, or can be stored in batteries for when it is needed during the evening.

d) Other carbon-reducing measures

Other measures are also increasingly being utilised, both in residential and commercial properties, in order to reduce carbon. For example, green roofs are being used to eliminate carbon in a number of sites, with successful results being reported in carbon capture,[51] but although these may be helpful in forming part of an overall strategy, they are not discussed further here due to reasons of space. It is, however, important to realise that there are a number of passive measures which can be incorporated into both new and refurbished buildings. All such measures, together with their active HVAC counterparts, will help contribute to long-term reduction of carbon for both landlords and tenants. Some materials that can be used to insulate would have appeared far-fetched only a decade ago but are now becoming reality; aerogel-

[51] See, for example, K Getter and others, 'Carbon Sequestration Potential of Extensive Green Roofs' (2009) 43 Environ. Sci. Technol. 7564, where 12 roofs in Michigan and Maryland with sedum plants were shown (by using a building energy simulation model) to give reductions of nearly 10% heating gas consumed.

based renders are now being piloted which can be applied to the interior or exterior of buildings with several coats providing dramatically low U-values.[52] Accordingly, even if materials like this were to be used in just either one of the landlord or tenant's areas it would greatly reduce heat loss.

e) A sample calculation

This is taken largely from the Open University free course, and is included for convenience.[53]

In each case the building is 10 m by 10 m square, and 4 m high. So, the building **volume** is **400**m^3 and its **surface area** will be **360** m^2.

In each case, the temperature outside is 0 °C, and inside 20 °C. (Temperature difference = 20 °C).

The calculation on the left-hand side represents a well-insulated, draught-proofed building (U-value 0.2 W/m^2 and a low air-change of 0.5 per hour).

The calculation on the right-hand side represents a very poorly insulated, draughty building (U-value of 4 W/m^2 and a high air-change of 5 per hour).

[52] Th. Stahl and others, 'Thermo-hygric properties of a newly-developed aerogel-based insulation for both exterior and interior applications' (2012) 44 Energy and Buildings 114, 116.
[53] Open University, Free Courses: Energy in Buildings, *Calculating the total energy loss of a house*, https://www.open.edu/openlearn/nature-environment/energy-buildings/content-section-2.4.1 Accessed 21st March 2022

	Good insulation and draught-proofed in building	**Poor** insulation and draught-proofing in building
Rate of heat loss through walls, ceiling and floor	$= U\ value\ x\ surface\ area\ x\ temp\ difference$	$= U\ value\ x\ surface\ area\ x\ temp\ difference$
	$= 0.2\ x\ 360\ x\ 20$	$= 4\ x\ 360\ x\ 20$
A)	$= \mathbf{1,440}\ Watts$	$= \mathbf{28,800}\ Watts$

Rate of heat loss through draughts	$= air\ change\ rate\ x\ volume\ x\ heat\ capacity\ of\ air$[54] $x\ temp\ difference$	$= air\ change\ rate\ x\ volume\ x\ heat\ capacity\ of\ air$[55] $x\ temp\ difference$
	$= 0.5\ x\ 400\ x\ 0.33\ x\ 20$	$= 5\ x\ 400\ x\ 0.33\ x\ 20$
B)	$= \mathbf{1,320}\ Watts$	$= \mathbf{13,200}\ Watts$

Conclusion

So, adding A) and B) in the left column (good) and then in the right column (bad) we see:

The **good** building will take 2,760 Watts of power to keep heated (**2.76 kW**). So based on electricity costing £0.30 per KWh, it will cost (£0.30 x 2.76) i.e. **£0.83 per hour** to heat.

The **poor** building will take 42,000 Watts of power to keep heated (**42 kW**). Again, based on electricity costing £0.30 per KWh, it will cost **£12.60 per hour** to heat.

[54] This is a standard scientific quantity, and is taken from the OU website.
[55] This is a standard scientific quantity, and is taken from the OU website.

Two points need to be made. One is that whilst the U-values that have been chosen are at either extreme, they are not impossible, since single glazed glass has a U-value of nearly 5. The second is that, likewise, the air-changes per hour are at either extreme – 0.5 is considered very low, but not impossible, and 5 changes of air per hour is quite possible, although would be incredibly draughty.

Renting the property

This is a two-storey building (4 metres high). Now assume that for the bad building, the bottom part is let out to one tenant, and the top part to another tenant, but that it is still heated centrally. No matter what the tenant downstairs chooses to do to improve matters, whether by insulating or stopping up draughts, he or she will only be able to do a very limited amount to improve energy efficiency by themselves. The problem is with the building as a whole, not with the leased areas.

Appendix E: Extracts from the Landlord and Tenant Act 1927

This Appendix contains some of the relevant sections of Part I of the 1927 Act for convenience

Part I

Compensation for Improvements and Goodwill on the termination of Tenancies of Business Premises

1 Tenant's right to compensation for improvements.

(1) Subject to the provisions of this Part of this Act, a tenant of a holding to which this Part of this Act applies shall, if a claim for the purpose is made in the prescribed manner— and within the time limited by section forty-seven of the Landlord and Tenant Act, 1954

be entitled, at the termination of the tenancy, on quitting his holding, to be paid by his landlord compensation in respect of any improvement (including the erection of any building) on his holding made by him or his predecessors in title, not being a trade or other fixture which the tenant is by law entitled to remove, which at the termination of the tenancy adds to the letting value of the holding:

Provided that the sum to be paid as compensation for any improvement shall not exceed—

(a) the net addition to the value of the holding as a whole which may be determined to be the direct result of the improvement; or

(b) the reasonable cost of carrying out the improvement at the termination of the tenancy, subject to a deduction of an amount equal to the cost (if any) of putting the works constituting the improvement into a reasonable state of repair, except so far as such cost is covered by the liability of the tenant under any covenant or agreement as to the repair of the premises.

(2) In determining the amount of such net addition as aforesaid, regard shall be had to the purposes for which it is intended that the premises shall be used after the termination of the

tenancy, and if it is shown that it is intended to demolish or to make structural alterations in the premises or any part thereof or to use the premises for a different purpose, regard shall be had to the effect of such demolition, alteration or change of user on the additional value attributable to the improvement, and to the length of time likely to elapse between the termination of the tenancy and the demolition, alteration or change of user.

(3) In the absence of agreement between the parties, all questions as to the right to compensation under this section, or as to the amount thereof, shall be determined by the tribunal hereinafter mentioned, and if the tribunal determines that, on account of the intention to demolish or alter or to change the user of the premises, no compensation or a reduced amount of compensation shall be paid, the tribunal may authorise a further application for compensation to be made by the tenant if effect is not given to the intention within such time as may be fixed by the tribunal.

2 Limitation on tenant's right to compensation in certain cases.

(1) A tenant shall not be entitled to compensation under this Part of this Act—

(a) in respect of any improvement made before the commencement of this Act; or

(b) in respect of any improvement made in pursuance of a statutory obligation, or of any improvement which the tenant or his predecessors in title were under an obligation to make in pursuance of a contract entered into, whether before or after the passing of this Act, for valuable consideration, including a building lease; or

(c) in respect of any improvement made less than three years before the termination of the tenancy; or

(d) if within two months after the making of the claim under section one, subsection (1), of this Act the landlord serves on the tenant notice that he is willing and able to grant to the tenant, or obtain the grant to him of, a renewal of the tenancy at such rent and for such term as, failing

agreement, the tribunal may consider reasonable; and, where such a notice is so served and the tenant does not within one month from the service of the notice send to the landlord an acceptance in writing of the offer, the tenant shall be deemed to have declined the offer.

(2) Where an offer of the renewal of a tenancy by the landlord under this section is accepted by the tenant, the rent fixed by the tribunal shall be the rent which in the opinion of the tribunal a willing lessee other than the tenant would agree to give and a willing lessor would agree to accept for the premises, having regard to the terms of the lease, but irrespective of the value attributable to the improvement in respect of which compensation would have been payable.

(3) The tribunal in determining the compensation for an improvement shall in reduction of the tenant's claim take into consideration any benefits which the tenant or his predecessors in title may have received from the landlord or his predecessors in title in consideration expressly or impliedly of the improvement.

3 Landlord's right to object.

(1) Where a tenant of a holding to which this Part of this Act applies proposes to make an improvement on his holding, he shall serve on his landlord notice of his intention to make such improvement, together with a specification and plan showing the proposed improvement and the part of the existing premises affected thereby, and if the landlord, within three months after the service of the notice, serves on the tenant notice of objection, the tenant may, in the prescribed manner, apply to the tribunal, and the tribunal may, after ascertaining that notice of such intention has been served upon any superior landlords interested and after giving such persons an opportunity of being heard, if satisfied that the improvement—

(a) is of such a nature as to be calculated to add to the letting value of the holding at the termination of the tenancy; and

(b) is reasonable and suitable to the character thereof; and

(c) will not diminish the value of any other property belonging to the same landlord, or to any superior landlord from whom the immediate landlord of the tenant directly or indirectly holds;

and after making such modifications (if any) in the specification or plan as the tribunal thinks fit, or imposing such other conditions as the tribunal may think reasonable, certify in the prescribed manner that the improvement is a proper improvement:

Provided that, if the landlord proves that he has offered to execute the improvement himself in consideration of a reasonable increase of rent, or of such increase of rent as the tribunal may determine, the tribunal shall not give a certificate under this section unless it is subsequently shown to the satisfaction of the tribunal that the landlord has failed to carry out his undertaking.

(2) In considering whether the improvement is reasonable and suitable to the character of the holding, the tribunal shall have regard to any evidence brought before it by the landlord or any superior landlord (but not any other person) that the improvement is calculated to injure the amenity or convenience of the neighbourhood.

(3) The tenant shall, at the request of any superior landlord or at the request of the tribunal, supply such copies of the plans and specifications of the proposed improvement as may be required.

(4) Where no such notice of objection as aforesaid to a proposed improvement has been served within the time allowed by this section, or where the tribunal has certified an improvement to be a proper improvement, it shall be lawful for the tenant as against the immediate and any superior landlord to execute the improvement according to the plan and specification served on the landlord, or according to such plan and specification as modified by the tribunal or by agreement between the tenant and the landlord or landlords affected, anything in any lease of the premises to the contrary notwithstanding:

Provided that nothing in this subsection shall authorise a tenant to execute an improvement in contravention of any restriction created or imposed—

(a) for naval, military or air force purposes;

(b) for civil aviation purposes under the powers of the Air Navigation Act, 1920;

(c) for securing any rights of the public over the foreshore or bed of the sea.

(5) A tenant shall not be entitled to claim compensation under this Part of this Act in respect of any improvement unless he has, or his predecessors in title have, served notice of the proposal to make the improvement under this section, and (in case the landlord has served notice of objection thereto) the improvement has been certified by the tribunal to be a proper improvement and the tenant has complied with the conditions, if any, imposed by the tribunal, nor unless the improvement is completed within such time after the service on the landlord of the notice of the proposed improvement as may be agreed between the tenant and the landlord or may be fixed by the tribunal, and where proceedings have been taken before the tribunal, the tribunal may defer making any order as to costs until the expiration of the time so fixed for the completion of the improvement.

(6) Where a tenant has executed an improvement of which he has served notice in accordance with this section and with respect to which either no notice of objection has been served by the landlord or a certificate that it is a proper improvement has been obtained from the tribunal, the tenant may require the landlord to furnish to him a certificate that the improvement has been duly executed; and if the landlord refuses or fails within one month after the service of the requisition to do so, the tenant may apply to the tribunal who, if satisfied that the improvement has been duly executed, shall give a certificate to that effect.

Where the landlord furnishes such a certificate, the tenant shall be liable to pay any reasonable expenses incurred for the purpose by the landlord, and if any question arises as to the reasonableness of such expenses, it shall be determined by the tribunal.

8 Rights of mesne landlords.

(1) Where, in the case of any holding, there are several persons standing in the relation to each other of lessor and lessee, the following provisions shall apply: —

- Any mesne landlord who has paid or is liable to pay compensation under this Part of this Act, shall, at the end of his term, be entitled to compensation from his immediate landlord in like manner and on the same conditions as if he had himself made the improvement . . . . . in question, except that it shall be sufficient if the claim for compensation is made at least two months before the expiration of his term:

- A mesne landlord shall not be entitled to make a claim under this section unless he has, within the time and in the manner prescribed, served on his immediate superior landlord copies of all documents relating to proposed improvements and claims which have been sent to him in pursuance of this Part of this Act:

- Where such copies are so served, the said superior landlord shall have, in addition to the mesne landlord, the powers conferred by or in pursuance of this Part of this Act in like manner as if he were the immediate landlord of the occupying tenant, and shall, in the manner and to the extent prescribed, be at liberty to appear before the tribunal and shall be bound by the proceedings:

(2) In this section, references to a landlord shall include references to his predecessors in title.

Part II

General Amendments of the Law of Landlord and Tenant

18 Provisions as to covenants to repair.

(1) Damages for a breach of a covenant or agreement to keep or put premises in repair during the currency of a lease, or to leave or put premises in repair at the termination of a lease, whether such covenant or agreement is expressed or implied, and whether general or specific, shall in no case exceed the amount (if any) by which the value of the reversion (whether immediate or not) in the premises is diminished owing to the breach of such covenant or agreement as aforesaid; and in particular no damage shall be recovered for a breach of any such covenant or agreement to leave or put premises in repair at the termination of a lease, if it is shown that the premises, in whatever state of repair they might be, would at or shortly after the termination of the tenancy have been or be pulled down, or such structural alterations made therein as would render valueless the repairs covered by the covenant or agreement.

(2) A right of re-entry or forfeiture for a breach of any such covenant or agreement as aforesaid shall not be enforceable, by action or otherwise, unless the lessor proves that the fact that such a notice as is required by section one hundred and forty-six of the Law of Property Act, 1925, had been served on the lessee was known either—

(a) to the lessee; or

(b) to an under-lessee holding under an under-lease which reserved a nominal reversion only to the lessee; or

(c) to the person who last paid the rent due under the lease either on his own behalf or as agent for the lessee or under-lessee;

and that a time reasonably sufficient to enable the repairs to be executed had elapsed since the time when the fact of the service of the notice came to the knowledge of any such person.

Where a notice has been sent by registered post addressed to a person at his last known place of abode in the United Kingdom, then, for the purposes of this subsection, that person shall be deemed, unless the contrary is proved, to have had knowledge of the fact that the notice had been served as from the time at which the letter would have been delivered in the ordinary course of post.

This subsection shall be construed as one with section one hundred and forty-six of the Law of Property Act, 1925.

(3) This section applies whether the lease was created before or after the commencement of this Act.

19 Provisions as to covenants not to assign, &c. without licence or consent.

(1) In all leases whether made before or after the commencement of this Act containing a covenant condition or agreement against assigning, underletting, charging or parting with the possession of demised premises or any part thereof without licence or consent, such covenant condition or agreement shall, notwithstanding any express provision to the contrary, be deemed to be subject—

(a) to a proviso to the effect that such licence or consent is not to be unreasonably withheld, but this proviso does not preclude the right of the landlord to require payment of a reasonable sum in respect of any legal or other expenses incurred in connection with such licence or consent; and

(b) (if the lease is for more than forty years, and is made in consideration wholly or partially of the erection, or the substantial improvement, addition or alteration of buildings, and the lessor is not a Government department or local or public authority, or a statutory or public utility company) to a proviso to the effect that in the case of any assignment, under-letting, charging or parting with the possession (whether by the holders of the lease or any under-tenant whether

immediate or not) effected more than seven years before the end of the term no consent or licence shall be required, if notice in writing of the transaction is given to the lessor within six months after the transaction is effected.

(1A) Where the landlord and the tenant under a qualifying lease have entered into an agreement specifying for the purposes of this subsection—

(a) any circumstances in which the landlord may withhold his licence or consent to an assignment of the demised premises or any part of them, or

(b) any conditions subject to which any such licence or consent may be granted,

then the landlord—

(i) shall not be regarded as unreasonably withholding his licence or consent to any such assignment if he withholds it on the ground (and it is the case) that any such circumstances exist, and

(ii) if he gives any such licence or consent subject to any such conditions, shall not be regarded as giving it subject to unreasonable conditions;

and section 1 of the Landlord and Tenant Act 1988 (qualified duty to consent to assignment etc.) shall have effect subject to the provisions of this subsection.

(1B) Subsection (1A) of this section applies to such an agreement as is mentioned in that subsection—

(a) whether it is contained in the lease or not, and

(b) whether it is made at the time when the lease is granted or at any other time falling before the application for the landlord's licence or consent is made.

(1C) Subsection (1A) shall not, however, apply to any such agreement to the extent that any circumstances or conditions specified in it are framed by reference to any matter falling to be

determined by the landlord or by any other person for the purposes of the agreement, unless under the terms of the agreement—

(a) that person's power to determine that matter is required to be exercised reasonably, or

(b) the tenant is given an unrestricted right to have any such determination reviewed by a person independent of both landlord and tenant whose identity is ascertainable by reference to the agreement,

and in the latter case the agreement provides for the determination made by any such independent person on the review to be conclusive as to the matter in question.

(1D) In its application to a qualifying lease, subsection (1)(b) of this section shall not have effect in relation to any assignment of the lease.

(1E) In subsections (1A) and (1D) of this section—

(a) "qualifying lease" means any lease which is a new tenancy for the purposes of section 1 of the Landlord and Tenant (Covenants) Act 1995 other than a residential lease, namely a lease by which a building or part of a building is let wholly or mainly as a single private residence; and

(b) references to assignment include parting with possession on assignment.

(2) In all leases whether made before or after the commencement of this Act containing a covenant condition or agreement against the making of improvements without a licence or consent, such covenant condition or agreement shall be deemed, notwithstanding any express provision to the contrary, to be subject to a proviso that such licence or consent is not to be unreasonably withheld; but this proviso does not preclude the right to require as a condition of such licence or consent the payment of a reasonable sum in respect of any damage to or diminution in the value of the premises or any neighbouring premises belonging to the landlord, and of any legal or other expenses properly incurred in connection with such licence or consent nor, in the case of an improvement which does not add to the letting value of the holding, does

it preclude the right to require as a condition of such licence or consent, where such a requirement would be reasonable, an undertaking on the part of the tenant to reinstate the premises in the condition in which they were before the improvement was executed.

(3) In all leases whether made before or after the commencement of this Act containing a covenant condition or agreement against the alteration of the user of the demised premises, without licence or consent, such covenant condition or agreement shall, if the alteration does not involve any structural alteration of the premises, be deemed, notwithstanding any express provision to the contrary, to be subject to a proviso that no fine or sum of money in the nature of a fine, whether by way of increase of rent or otherwise, shall be payable for or in respect of such licence or consent; but this proviso does not preclude the right of the landlord to require payment of a reasonable sum in respect of any damage to or diminution in the value of the premises or any neighbouring premises belonging to him and of any legal or other expenses incurred in connection with such licence or consent.

Where a dispute as to the reasonableness of any such sum has been determined by a court of competent jurisdiction, the landlord shall be bound to grant the licence or consent on payment of the sum so determined to be reasonable.

Appendix F: Precedent Clauses

This Appendix contains standard clauses taken from the PLC website.

Suggested clause for restricting tenant's ability to obtain an EPC

1.1 The Tenant must not commission an Energy Performance Certificate for the Property unless required to do so by the EPC Regulations.

1.2 Where the Tenant is required by the EPC Regulations to commission an Energy Performance Certificate for the Property, the Tenant must at the request of the Landlord either:

(a) commission an Energy Performance Certificate from an Energy Assessor approved by the Landlord; or

(b) pay the costs of the Landlord of commissioning an Energy Performance Certificate for the Property.

1.3 The Tenant must deliver to the Landlord a copy of any Energy Performance Certificate and Recommendation Report for the Property that is obtained or commissioned by the Tenant or any other occupier of the Property.[56]

Suggested clause for allocating environmental responsibility for pollution in a land sale or lease

[Sold with information

[The Tenant acknowledges that, before the date of this Lease:

[56] Taken from the Practical Law Company. https://uk.practicallaw.thomsonreuters.com/Document/I33f15440e8cd11e398db8b09b4f043e0/View/FullText.html?originationContext=KnowledgeGraph&transitionType=Default&contextData=(sc.Default)&comp=pluk&navId=7043AA4931381AB9A4B75D9377015855&view=hidealldraftingnotes Accessed 16th April 2022.

it had full permission and opportunity to inspect, survey and investigate the condition of the Property; **AND/OR**

it had information about the condition of the Property in the form of [a copy of the report by [NAME OF ENVIRONMENTAL CONSULTANT] **OR** copies of all documents listed in Schedule [NUMBER]] which information was reasonably sufficient to allow the Tenant to be aware of the presence on the Property of any Hazardous Substances and the broad measure of that presence; and

the Landlord did nothing material to misrepresent the implications of that presence.]

The Tenant agrees that, as a result of the [permission to investigate the condition of the Property [and] **OR** the information acquired by the Tenant] referred to in clause 0, any liability which the Landlord might otherwise have had under the Contaminated Land Regime in respect of Hazardous Substances in, on or under the Property, on or before the date of this Lease, has been transferred by this Lease to the Tenant and the Landlord shall no longer retain that liability.]

[Payment for remediation

The Parties agree that the [reduction in the [Rent **OR** Premium] **OR** payment to the Tenant by the Landlord] referred to in clause 0 is sufficient to meet the cost of the Remediation Works.

The [Parties have reduced the [Rent **OR** Premium] by £[AMOUNT] **OR** the Landlord has paid £[AMOUNT] to the Tenant] to reflect the cost of the Remediation Works.

The Tenant agrees that:

it is solely responsible for the cost of the Remediation Works and it will not seek any further contribution from the Landlord; and as a result of the [reduction in the [Rent **OR** Premium] **OR** payment to it by the Landlord] referred to in clause 0, any liability which the Landlord might otherwise have had under the Contaminated Land Regime in respect of the Hazardous Substances identified in the report by [ENVIRONMENTAL CONSULTANT] dated [DATE OF

REPORT] has been transferred by this Lease to the Tenant and the Landlord shall no longer retain that liability.][57]

[57] Taken from the Practical Law Company website. https://uk.practicallaw.thomsonreuters.com/0-505-8665?originationContext=document&transitionType=DocumentItem&contextData=(sc.Default)&ppcid=251d7fd4e2464fe38953989492368534&comp=pluk&navId=2A91D5E25F5F8DC5F56464D74C00EF05&view=hidealldraftingnotes Accessed 16th April 2022.

Appendix G: Tenants' Rights to Block Ground (f) Under S.31A

The focus of this thesis has been upon the non-contentious area of lease renewal, with little or no mention of the seven grounds by which a landlord can oppose renewal. The redevelopment ground (f) is, however, very commonly used, and this ground has a twofold exemption which, as will be shown, is likely to be relevant for energy improvement works. Accordingly, this is now examined to see if this exemption could become much more widely used by tenants when EEW are carried out. The key word being considered here in ground (f) is "substantial" works of reconstruction, since on the whole the other words (those of demolition and construction) are unlikely to be affected by passive EEW. Whilst "substantial" is not the same as "structural", which is the expression used in Chapter Four of this dissertation,[58] the wording was considered in the context of ground (f), in *Ivorygrove*.[59] That case centred upon major refitting of the London Georgia hotel, with changes to floor levels, installation of new lifts and many new partitions being erected. Collins J held that these were substantial works, which did not have to be structural to come under ground (f). The *Ivorygrove* decision is not, however, quite as clear as may be first thought, since the case of *Marazzi*,[60] concerning a nearly identical building just a few doors down from *Ivorygrove*, and heard just a few weeks before, came to quite a different decision. Nevertheless, it will be assumed that most future EEW will be covered by ground (f), so it is necessary to consider the tenant's back-up rights under s.31A.[61]

In 1969, the 1954 Act was amended to give tenants the rights either to still take a new tenancy if the landlord was able to work around them and not cause too much disruption, or to take a reduced area of what they had previously held upon renewal where there was an economically

[58] Perhaps the difference between structural and substantial may not be all that significant: in the context of the 1927 Landlord and Tenant Act, Denning LJ held that structural did not just mean load-bearing. See *Pearlman v Keepers and Governors of Harrow School* [1979] QB 56.
[59] *Ivorygrove Limited v Global Grange Limited* [2003] EWHC 1409 (Ch), [2003] All ER 239.
[60] *Global Grange Limited v Marazzi and another* [2002] EWHC 3010 (Ch), 2 EGLR 42.
[61] Under s.31A of the Landlord and Tenant Act, where the landlord seeks possession under ground (f), the tenant can in some circumstances request still to be given a new tenancy.

severable part of the tenancy.[62] These two subsections do at least give tenants who want to stay on in the premises (or part of them) another bite at the cherry where the landlord is trying to repossess. The subsections are briefly considered below.

Landlord can carry out works without interfering substantially with the use of the holding

Under s.31A(1)(a), the tenant may be able to stay in the property if it offers to allow the landlord access to do the works, and those works are not ones for which the landlord needs to take back possession. Since the decision in *Heath v Drown*,[63] if the landlord already has express power to enter and carry out works, the provisions of s.31A will not be required; although typically the lease wording refers only to repairs which are not usually considered to be energy improvements. There is a caveat, however, since the tenant must not suffer too much disruption by the works being carried out.[64] Disruption is measured in two ways: the landlord must neither interfere to a substantial extent, nor for a substantial time with the use of the holding.[65] Each case is decided upon its own facts, but by way of example, a couple of weeks' worth of works has been held to be acceptable,[66] whereas twelve weeks was held to be too disruptive.[67]

Economically severable holding

Where the landlord wishes to carry out works, the tenant can opt to have a tenancy of part only of the holding provided that it is an "economically separate part". [68] This second defence to s.30(1)(f) is very seldom used,[69] and accordingly there are few cases.[70] What is meant by economically separate is fleshed out in s.31A(2), which requires valuation evidence to show that,

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[62] Section 31A of the Landlord and Tenant Act 1954, as inserted by s.7 of the Law of Property Act 1969.
[63] [1973] AC 498.
[64] Section 31A(1)(a).
[65] Ibid.
[66] *Cerex Jewels Ltd v Peachey Property Corporation* [1986] 2 EGLR 65, CA.
[67] *Blackburn v Hussain* [1988] 1 EGLR 77, CA.
[68] Section 31A(1)(b).
[69] K Reynolds and W Clark, *Renewal of Business Tenancies* (5th edn, Sweet and Maxwell 2017) 401.
[70] Ibid 402.

after the works, the total rent for the then two parts would not be substantially less than the rent for the whole.

A crucial energy question now arises: if an EPC is either only required for one part of the building, or if the building, when refurbished as a whole, might obtain a higher EPC certificate, does that help or hinder in deeming whether that part of the building is economically severable? Provided the landlord is serious about the works, the reasonableness of the proposed works does not matter for s.31A(1)(b).[71] Presently, all that is required is for a valuation to be done of the premises with, and without the proposed partition of the holding.[72]

The situation becomes clearer when looking back at the fictitious example in paragraph 1.8, but this time imagining that the two tenants on the left and right hand have both sublet to one person on the first floor. In other words, the one subtenant puts a door in the middle, so that the first floor effectively becomes one unit, with a split reversion. If there are plans to instal just one heating and cooling system and, therefore, the first floor will have one EPC (under the present rules) it is submitted this is likely to be considered an economically separate part. If this is what the left-hand and right-hand tenants and their subtenant wish, it would seem a satisfactory result for all concerned provided, of course, that the freeholder landlord(s) are happy too. If, however, the freeholder landlord wanted to recover possession of their properties under ground (f), they would be less happy, and presumably the freeholder would not wish for there to be a defence under s.31A(1)(b) to possession. What is not clear is whether the pair of split properties on the first floor would have about the same rental value as the original unsplit tenancy, and in particular, whether having a property covered by one EPC would affect the rental value too compared to the first-floor properties having two separate EPCs.

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[71] *Decca Navigator Co v Greater London Council* [1974] 1 WLR 748 CA. 'Could the [landlords] in common sense and in reason have carried out that substantial work of construction — not some different work answering to that general description — without obtaining possession of the whole of the holding?' per Stephenson LJ at 753.

[72] Reynolds (n 69) 402.

The situation discussed above is admittedly not a common one, but these are largely commercial questions that it is not possible to answer at this time until the impact of either MEES and EPCs, or NABERS, has been assessed. It is likely is that, as the EPC regime tightens over the next few years, this second defence to ground (f) will slowly become more well-used in circumstances where only part of the holding needs to be, or can be, refurbished.

Eggshell tenancies

Finally, eggshell tenancies present particular challenges on substantial energy refurbishment.[73] If new insulation is to be inserted, as outlined before, the depth of typical insulation will be between 25 mm to 100mm in depth.[74] Taking potentially 200mm off the width of a holding will not be popular in small demises in central London where even such a small reduction could materially impact on the tenant's ability to enjoy their property. The EEW needed for a holding demised on an eggshell tenancy, therefore, which already requires particular consideration for the purposes of ground (f),[75] could provide further complications for courts to consider on lease renewals as to who should pay for such insulation. It is submitted that once again the present law does not offer any guidance in these circumstances.

Amending s.31A

Finally, the question arises whether s.31A could be further amended so that landlords have a greater right to carry out EEW, but the tenant's tenancy continues notwithstanding the likely disruption. The question arises as to whether a new section could be added into Part II, that is a new s.31A(3), so that landlords are required to grant part of the holding to tenants where substantial EEW are envisaged, but the tenants' desire to stay notwithstanding the disruption.

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[73] Eggshell tenancies are leases where the tenant merely takes a demise of the space inside the walls, so that they are not liable to maintain the interior surfaces or plaster etc.

[74] VIPs (Vacuum Insulated Panels) are thinner, but even these are typically 10mm thick. See Appendix E.

[75] *Pumperninks of Piccadilly Ltd v Land Securities Plc* [2002] EWCA Civ 621, [2002] Ch 332. 'If, after the intended works are carried out, the premises would not exist precisely as they had done before, this would be a relevant factor in deciding whether those works could be carried out without obtaining possession' per Charles J at 349.

Briefly, the answer to the question of whether such a new subsection would be useful is, for the moment, not clear. This is because as discussed previously, the possibility of any landlord not being able to let out subsequently may depend upon the type of energy certificate required (EPC or NABERS) and this matter is unresolved at the time of writing.

Appendix H: Contracting Out and Notices

When considering how effective renewal leases will be if either NABERS or the MEES regime is brought in, several interrelated areas may cause further problems if large amounts of EEW are to be carried out. These relate to existing concerns or defects about Part II, and are explained briefly here for completeness.

The contracting out procedure

It is appropriate to ask what the effectiveness at all of such protections would be if, as continues to be the case, so many tenants "voluntarily" contract out of the 1954 Act. This is something that can be accomplished since 2003 simply by signing or swearing a declaration prior to entering into the tenancy.[76] This author has experience of not only the present system, but also the previous one, where at least a court had to approve the application, even if it was the easiest £150 earned for the court by a district judge.[77] In this author's experience, nearly one half of all business tenancies are contracted out, a fact that seems to be understood by company secretaries.[78] Additionally, tenants very frequently do not understand what they are doing, or have little idea of the consequences of contracting out, [79] something the court found in *TFS Stores v Designer Retail Outlets Ltd*.[80] The vicissitudes of the contracting out procedure are not further considered in this work, but what will be evident is that where the landlord has the ability to request the tenant to waive any rights they may otherwise have had, this allows the negation of the many rights under Part II which are the subject of this Chapter and, therefore, the dilution of rights of tenure both with and without considering EEW.

[76] S.38A(3) of the Landlord and Tenant Act 1954 as inserted by the Regulatory Reform (Business Tenancies) (England and Wales) Order 2003/3096 Scheds. 1 and 2.
[77] A Hindle, 'Stuck on repeat?' (2012) 16(4) L&T Rev 127, 128.
[78] V King, 'The Law Can Still Surprise – Even after 65 Years' (2019) 42(10) Company Secretary's Rev 147.
[79] J Petrenko, 'Contracting out of business tenancies' (2019) 23(6) L&T Rev 236, 237-238.
[80] *TFS Stores Ltd v Designer Retail Outlet Centres (Mansfield) General Partner Ltd* [2019] EWHC 1363 (Ch). 1970; [2019] 6 WLUK 10 (Ch D).

Making an EPC mandatory for s.25 notices and s.26 requests

Should the EPC provisions be added to the notice provisions allowing an EPC to be served with a s.25 Notice, for example? There is an analogy in the residential sector where a s.21 notice[81] can only be followed by court proceedings to repossess if the landlord has originally served an EPC on its tenant. Whilst there is no reason why a similar provision ought not to be utilised for any court proceedings under Part II, with an EPC being served with the s.25 or s.26 notice, this would add complexity to an already complicated area of law. It is possible to add robust enforcement mechanisms to enforce these. For example, as regards the right of pre-emption given to flat-owners under the Landlord and Tenant Act 1987, so many landlords were ignoring the provisions that a later Act had to impose criminal sanctions.[82] Even now, a failure to quote all of the warning notices for a s.25 notice may or may not necessarily invalidate the notice,[83] and similar concerns arise from misidentification of the server[84] or even of the recipient.[85] Adding an EPC to be served for any renewal proceedings may simply cause complications where the EPC is out of date or is valid, but relates to the wrong premises. This situation has been experienced by the author when the landlord mistakenly supplied the wrong EPC for the property next door. Although there is case law to suggest that a mistake in describing the property does not necessarily invalidate the notice,[86] it is dubious whether this reasoning could be applied to an EPC served for the next-door property, since an EPC is not a mistakenly addressed document, but one relating to an entirely separate matter. For these and other

[81] S.21 notices allow "no-fault" eviction, and s.21A(2)(c) of the Housing Act 1988 as inserted by s.38 of the Deregulation Act 2015 now requires the landlord to provide a valid EPC amongst other documents to the tenant.
[82] A Radevsky and W Clark, *Tenants' Rights of First Refusal* (4th edn, Lexis Nexis 2021) 163.
[83] T Weekes, *Property Notices: Validity and Service* (3rd edn, Lexis Nexis 2021) 21.
[84] Ibid 80.
[85] Ibid 86.
[86] For example, see *Safeway Food Stores v Morris* [1980] 1 EGLR 59 where the extent of the property was incorrectly described but the court held that the s.25 notice was valid.

reasons, making the EPC part of the Part II process is, it is submitted, would not be entirely helpful.

The renewal procedure

Although this thesis does not focus on the practical litigious aspects of renewing a tenancy, it is often an expensive and delay-bound process to renew. This is so even where the parties have both agreed that there should be a lease, but cannot agree fully on its terms. In such cases, Part 8 of the CPR comes into play. The different Parts are themselves an area of confusion since in hostile s.25 notices (or where the tenant has served a s.26 request, but the landlord has served a counternotice) Part 7 is used instead of Part 8. This, itself, causes confusion and a lack of consistency.[87] The delays inherent in issuing, then serving proceedings up to four months after issuing upon the other party, and the complexities of other parts of the court procedure and the seldom used PACT scheme,[88] all contribute to an unwieldy system. This can be used tactically by well-advised landlords or tenants in order to prolong the process more than it ought to be. The pilot scheme in London recently seems to have been a success in reducing delays,[89] and yet there are no active plans at the time of writing to roll this out any further. In the absence of any dedicated court or tribunal, the requirements laid down in *Halsey*[90] for ADR to be considered will still apply, and as a result of that case, Blake *et al* emphasize that all legal practitioners must now consider if their dispute is suitable for ADR.[91] However, if one party is unwilling to engage, the ADR itself can merely add another layer of procedure and delay.

It is submitted that any attempt to incorporate EEW into the renewal process will be adding a further level of complexity to what is already an overworked system. Trying to incorporate EPCs

[87] J Hunter, *Business Tenancies: A guide to the new law* (Law Society Publishing 2004) 55.
[88] C Goodall, 'Landlord and Tenant: A Successful PACT' (2011) 161 NLJ 123.
[89] A Hindle, 'A successful pilot?' (2020) 24(2) L&T Rev 39.
[90] *Halsey v Milton Keynes NHS Trust* [2004] 1WLR 3002.
[91] S Blake, J Browne and S Sime*, A Practical Approach to Alternative Dispute Resolution* (5th edn, OUP 2018) 40.

and perhaps allied evidence such as quotes for proposed EEW and even the expected amounts saved over the lifetime of the renewal lease is only desirable when the justice system itself is fast and efficient, which is not the case at the moment.

Appendix I: Subleases, Service Charges and Incorporeal Hereditaments

Subleases

A further complication is introduced where there is a headlease and sublease of part, but upon renewal both mesne landlord and subtenant wish for a shorter five-year lease. In this scenario the mesne landlord is not able to do an energy refit because they are themselves a leaseholder. In such cases, the court should arguably be allowed to intervene on environmental grounds in order to force both parties to take a longer lease than either of them might have wished. If it ever made the statute books, such a change would be novel, although it is worth noting that a power of similar magnitude and novelty has already existed under Part II for some time which already enables courts to award a longer sublease than is possible at common law.[92] One practical disadvantage of such a change would be trying to co-ordinate any potential dilapidations claims across the three or more parties at the same time as the lease renewal claim, since in theory the legislation requires the head landlord to be notified of dilapidations claims by the subtenant, but this is an almost unknown thing in practice.[93] The ethics and disadvantages of giving the courts such power are not further discussed here for reasons of space, but such changes would clearly raise concerns about interfering with the existing principle of freedom of contract between both landlord and tenant.

Service charges

Even if courts were to decide that under *O'May*, EEW can already be included as a variation, from a service charge perspective there are still some difficulties which might arise when considering the RICS Service Charge Code. Whilst the Code is extremely clear that the costs of EPC certification are not recoverable, its other provisions are less clear. The section entitled

[92] M Haley, (n 4) 32.
[93] Ibid.

Improving Environmental Performance states that there should be a fair and reasonable approach to carrying out works that improve the environmental performance of the building. The section entitled Improvement and Enhancement states that the costs of improvement would not normally be included in the service charge. Lastly, the section called Refurbishment simply states that the improved efficiency of the new environment may lead to service charge reductions but does not deal with the situations where the service charge is not reduced in this way. Albeit well-intentioned, therefore, there is little or nothing in the Code which mandates EEW to be carried out unless they are cost effective.

In addition to the RICS guidance, a further difficulty for landlords seeking to recover such costs is that EEW are by their nature capital works, and so they are not classified as normal expenditure. Although Freedman et al state that the fact that "expenditure is of a capital nature … is generally irrelevant" in the context of distinguishing between repairs and renewals, their own approach is not always consistent: Subsequently, they discuss the question of tests to distinguish between repairs and improvements, but they themselves then refer back to the Code. However, by itself, the Code is not likely to be of assistance in classifying works, since the Code's main reference to the cost of works being shared is where they are likely to be cost-effective. At present, therefore, it does not factor in any environmental considerations expressly. Whilst much will depend upon the wording of the service charge in individual leases, the cost of such works will not usually be recoverable from the tenant because of the general principle that the cost of works "above the costs of normal repair, maintenance and replacement" cannot be recovered. There is as yet no express authority on passive works, but from the foregoing principles it would appear that installing insulation or PCMs or airtightness measures will not be recoverable by landlords under the Service Charge Code. Whether this is the approach that will be adopted by the courts and tribunals remains to be seen, but it is suggested that it would at least be largely in accordance with the House of Lords' reasoning in O'May.

Incorporeal hereditaments: s.32(3)

When considering any incorporeal hereditaments which were enjoyed under the old tenancy, but which are to be varied or included for the tenant's benefit upon lease renewal, of relevance is the right to take electric power or heat from adjoining premises. This is particularly the case where there is a system such as a heat recovery system or centralised air pump, which would benefit the tenant. Equally, a landlord may wish to draw power or heat using an easement over the tenant's property or to have access to be able to inspect or maintain a central HVAC system. In the latter case, but not the former, s.32(3) of the Act enables tenants to request that their renewed lease contain such rights insofar as the old lease contained them.[94] Since the case of *Pointon York Group plc v Poulton*,[95] such rights can include an easement for a term of years certain.

Section 32(3) is less favourable to tenants where the tenant had previously enjoyed rights in the context of access or parking, but which were not expressly contained in the old lease.[96] One can therefore easily imagine situations where, amongst the confusion of refitting works, tenants seek renewal of their lease under Part II, but informal rights are not carried over into the new lease. Hence with oral tenancies or poorly drafted previous leases, rights which the tenant might have enjoyed may simply be forgotten in the renewal process. Once again, there appears to be an obvious gap in the law since there is, at present, no possibility of the court extending previous rights under incorporeal hereditaments. As drafted, the subsection does not

[94] *G Orlik (Meat Products) Limited v Hastings & Thanet Building Society* (1974) 29 P&CR 129 showed that informal rights to park which had accompanied the old lease will not be converted into rights within the renewal lease under s.32(3), at 133. Stamp LJ's reasoning in *Orlik* relating to s.35, but not s.32(3) was applied by Jack J more recently in *The Picture Warehouse Ltd v Cornhill Investments Ltd* [2008] EWHC 45 QB para 17.

[95] *Pointon York Group plc v Poulton* [2006] EWCA 1001, [2007] 1 P&CR 6.

[96] Provisions pertaining only to the general law of property such as s.62 of the LPA 1925 and the rule in *Wheeldon v Burrows* (1879) LR 12 Ch D 31 are not discussed here.

require the court to put in all pre-existing rights into the new lease,[97] but there is certainly no power to add in extra rights.[98]

Additionally, there is another practical problem, albeit one which will arise more with active systems such as HVAC installations. It is often in the hidden areas between walls and floors which are at the boundary of landlord or tenant's liability to maintain where cables, pipes and drains need to be run when extending or upgrading the HVAC systems. Any court awarding a new lease which needs to vary the demise of the space between two walls (or between a ceiling below and the floorboards above) does not at present have the power to require tenants to demise or landlords to retain such cables or pipes, under the present s.32(3).

Reynolds and Clark[99] highlight further problems, stating that the tenancy can include "rights enjoyed by the tenant in connection with the *holding*". They give an example of a shop tenant who previously let both the shop and the upper part, but who has since sublet the upper part prior to lease renewal. As his holding is now just the shop, he may not have included in the new tenancy "rights of access enjoyed by the new part".[100] Looking at the left-hand flat, which is accessed externally, then any rights of access previously used for that flat would only transfer to the new flat-owner, and not to the tenant of the shop and office below. This situation may sometimes work to the detriment of the renewing business tenant where, for example, there is machinery or a heat pump outside the area of the holding that they are renewing, but which they have covenanted in their lease to maintain or inspect. Although this is not a new problem (since it is a defect in the existing legislation) it is submitted that these situations will become far more common as both passive and active technology solutions are installed into business premises.

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[97] The wording in s.32(3) states, 'those rights shall be included in a tenancy…except as otherwise agreed between the landlord and the tenant or…determined by the court'.
[98] See, however, the later section in this Chapter discussing the wider powers under s.35 which may assist.
[99] K Reynolds and W Clark, *Renewal of Business Tenancies* (5th edn, Sweet & Maxwell 2016) 459.
[100] Ibid 460.

The foregoing is simply to find a practical application for what has been demonstrated in preceding chapters; namely when considering energy efficiency, it is nearly always necessary to consider the building as a whole. Currently, the law in Part II does not allow this.[101] One potential drawback to this suggestion of a new "s.32(4)", enabling landlords to require tenants to lease a larger area than the previous holding, is that any such legal power would be reliant upon the use of a particular energy certification scheme such as EPCs. If, by contrast, the NABERS (UK) scheme were to be used for the building instead of an EPC, the rules for when a separate certificate is needed could well be different again.[102]

[101] Note that there is a provision in s.35(1) of the 1954 Act requiring the court to consider "all relevant circumstances" which is discussed later, but this cannot allow the extent of the holding to be extended.
[102] This is not considered further here since the NABERS (UK) scheme is at an early stage.