

# What is the impact of non-domestic building tenure on SME's energy efficiency?

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## Abstract

The role non-domestic energy consumption plays in the emission of carbon is generally accepted by UK politicians, the general public and industry. In turn, the improvement of non-domestic energy efficiency is commonly considered to be the most cost-effective means to reduce carbon emissions. However, despite widely available cost effective, energy efficient interventions that could financially benefit both non-domestic landlords and tenants, these have not been adopted as rational economic business performance would expect; energy inertia prevails.

Financial split-incentives of non-domestic building tenure have been proposed to explain this. However, financial split-incentives present a limited view of the impact of non-domestic building tenure; one which could have been overcome through the rational economic drivers of current energy policy. This paper suggests the continuation of energy inertia has other drivers and proposes the impact of non-domestic building tenure is wider in scope than previously expected and extends beyond landlords' and tenants' financial decision making.

The paper presents findings related to the impact of non-domestic building tenure taken from a wide-ranging study of energy behaviours within UK SMEs. Findings suggest the impacts of non-domestic building tenure are influential beyond financial considerations for non-domestic landlords and tenants. This new understanding of the impacts of non-domestic building tenure, including the power and influence of practical and attitudinal barriers from landlord-tenant relationships, contractual constraints and ownership concerns, may inform energy policy in overcoming energy inertia and reducing SMEs' expenditure on energy.

**Key words:** Non-domestic building tenure: Landlords; Tenants; Non-domestic energy; Split-incentives

## Introduction

The role energy plays in the emission of carbon is generally accepted by the UK Government, politicians and the public, with a growing recognition that organisations can severely affect climate change through their day-to-day operations and therefore need to minimise their environmental impacts (Finke, Gilchrist & Mozas, 2016). Improving energy efficiency is often seen as the most cost-effective means of achieving carbon emissions targets (Castellazzi, Bertoldi & Economidou, 2017). However, installation of lower carbon energy generation and energy consumption reductions, targeted through existing conventional approaches of encouraging voluntary energy conservation actions, taxes and financial and non-financial incentives, have fallen short of climate change requirements.

There will always be a requirement for energy; the problem is the way it is used, the amount demanded and its contribution to man-made climate change (Hickel, 2016; Committee on Climate Change, 2018). This perspective on energy consumption reflects the long-term historical forces that have driven continual improvements in the availability and efficiency of energy over the last 150 years (Unruh, 2000), which have resulted in a socio-economic energy culture that considers energy to be in limitless supply and excessive consumption acceptable (Emblen-Perry & Duckers, 2016). Whilst this has driven financially rational, technically viable and retrofit feasible energy conservation interventions and behaviours, it has also resulted in a vastly increased per capita consumption of energy (Warde, 2010), creating an energy supply system and consumption patterns that are now widely recognised as key contributors to carbon emissions.

Progress on reducing carbon emissions and projected shortfalls in future emissions pathways question the ability of current UK energy policy to meet carbon budgets which policy makers have set to frame the challenge of keeping global warming to 'acceptable' levels (i.e. +1.5°C of warming) (Carbon Tracker, 2018). The shortfall in reduction of emissions is predicted to leave a gap in the 4<sup>th</sup> Carbon Budget (2023-2027) and will jeopardise meeting 2050 targets (Committee on Climate Change, 2017). Improvements to the UK's energy landscape have stalled in the wake of Brexit. Green aspirations are no longer being included in the government's narrative, and there is an unwillingness to devote resources to protect and promote energy policy (Tapper, 2018).

Even if total energy demand was met from renewable sources, the UK energy culture, in which users perceive energy as a low-cost resource with entitlement to unlimited supply (Dowlatabadi & Razaei, 2013), economic systems would still promote socio-economic energy inertia (van Vuuren et al, 2016) as non-domestic users continue to use energy to drive economic growth as they have for nearly two centuries. One outcome of this entitlement view of energy is the presence of split-incentives of building tenure. These divide the benefits of implementing energy consumption interventions and behaviours between property owners and tenants; neither party therefore has an incentive to invest in energy improvements as the other party receives the benefit. These split-incentives have traditionally been recognised as a financial barrier to the adoption of energy efficient interventions. However, with impacts of man-made climate change increasingly being felt, the freedom to prolong socio-economic energy inertia and value politically attractive energy culture above the needs of people and the planet, is no longer acceptable (Roos, 2017).

New initiatives may be hampered by the changes to the political engagement in energy policy, for example, the Energy Performance of Buildings Directive is widely held to be at risk of removal from UK legislation (Tapper, 2018), but the current discourse on the impacts of man-made climate change makes energy consumption reduction even more vital. Those who apply energy policy must rise above policy lethargy to implement new solutions to provoke carbon emissions reductions. As a starting point, barriers to energy efficiency instigated by non-domestic building tenure should be explored

This paper, presents a new perspective on the impacts of non-domestic building tenure. It suggests that practical and attitudinal influences of tenure have two effects; they extend

split-incentives beyond the financial environment previously proposed, and in turn create obstacles through which the ability and willingness of non-domestic building landlords and tenants to adopt energy conservation interventions become more influential.

### **Current understanding of the impact of building tenure on SMEs**

Whilst it is normal for large organisations to track and manage energy consumption, most SMEs in the UK appear reluctant to adopt such strategic approaches. This is not to say SMEs are unaware of financially and technically beneficial energy efficiency interventions and behaviours (Emblen-Perry & Duckers, 2016). Environmental issues simply remain peripheral to the day-to-day running of the business (Studer et al, 2008). Consequently, where environmental responsibility is accepted, it is more usual for SMEs to adopt an ad hoc approach to reduce and mitigate environmental impacts (Panwar et al 2016).

Khalili & Duecker (2013) consider this disengagement is caused by financial constraints and suggest the biggest challenge to energy consumption change within SMEs is access to resources. Other authors attribute this financial constraint to the split-incentives of building tenure (McAllister, Quartermaine & McWilliams 2009; Axon et al. 2012; Kontokosta (2016); Castellazzi et al, 2017). The sharing of financial rewards from investing in energy conservation interventions is considered to act as a financial disincentive for actors within non-domestic lease or rental agreements, i.e. landlords and tenants. Bright (2010), and Castellazzi et al. (2017) suggest that if the benefits of an energy improvement intervention do not accrue to the actor who funds it no action will take place even though there is a positive finance benefit available. Consequently, a majority of UK SMEs and the landlords of their business premises continue to operate within challenging tenure environments and are unwilling to invest in energy conservation interventions despite rational economic rewards.

### **Extending the understanding of the impact of building tenure**

Opinions of landlords and tenants, gathered within a wider survey-based, mixed-methods energy research project, contribute information to the ongoing debate of energy efficiency and mitigation of climate change. Participants' responses suggest landlords' and tenants' roles and responsibilities in the context of the tenure of business premises has introduced energy challenges for UK SMEs and the owners of the business premises from which they operate.

It is pleasing that almost one third of landlords and tenants recognised some financial incentives for the adoption of energy efficiency interventions. These incentives are related to reduced energy bills (24%), the opportunity to charge higher rents (3%) and an improved likelihood of re-letting the property (3%) should it become vacant. However, a larger proportion (43%) see no incentive to intervene to reduce energy consumption, simply barriers to change.

When explored further, it appears that significant non-financial constraints related to tenure (reported by over 50% of participants) influence landlords' and tenants' ability and willingness to intervene to reduce energy consumption. In addition, two-thirds of tenants and over half of landlords are constrained by the ownership structures and agreements. These include, but are not limited to, restrictive lease clauses such as dilapidations requirements and other contractual issues, such as length of tenure. These appear to be extremely powerful in landlords' and tenants' willingness and ability to introduce energy changes.

For example, landlords and tenants reported:

*"Lease clauses restrict us making changes so we are unable to get solar power"*  
(Tenant)

*“Utility is included in the service charge and areas are not separately metered. It is particularly difficult to evidence actual use and to inspire occupants as the cost and use is invisible.” (Landlord)*

*“Clauses are prohibitive and encourage waste...especially under dilapidations e.g. you have to put the place to a shell. When you leave you rip everything out even though it is in fine condition and replace with cheap items such as cheapest lighting and carpets which are not energy efficient.” (Tenant)*

If the scope of split-incentives of building ownership were purely financial as previously proposed (McAllister, Quartermaine & McWilliams 2009, Bright 2010, Axon et al. 2012; Kontokosta 2016; Castellazzi, Bertoldi & Economidou, 2017), the majority of participants' disincentives and barriers to energy improvement would be expected to be financial. Findings in this study suggests this is not the case; more than 60% of reported barriers to improving energy efficiency were not financial in origin. For example, landlords and tenants reported practical barriers to change:

*"The problem we see is that we are ground floor with flats above, the Local Authority own and rent out. If we want to put solar panels on, we would have to go through tenants and local authority before [we would be allowed to do so]." (Tenant)*

*"We wouldn't change things that we could not take with us if we were to leave the premises" (Tenant)*

In addition to these practical barriers, the study's participants identified a significant number of attitudinal constraints to change.

For example, landlords and tenants reported:

*"In the majority of properties, we deal with, energy costs aren't a significant factor." (Landlord)*

*"A great deal of tenants that would like to have a more energy saving building unfortunately their hands are tied." (Tenant)*

These attitudinal barriers appear to suggest landlords' responses to energy are a major constraint for tenants, though this study is too small to prove this conclusively. However, it is indicative of the influence of non-domestic building tenure on improving energy consumption, and this influence contributes to the achievement of carbon emissions reductions targets.

Within these attitudinal barriers, relationships between landlords and tenants appears to be a key issue preventing energy efficiency improvement. It is encouraging that 30% of tenants considered their landlord as supportive or cooperative on energy improvements. What is more concerning is that over 40% of tenants reported that their landlord prevented change.

Examples of this include:

*"My landlord is never interested in contributing to any improvements whatsoever." (Tenant)*

*"So much depends on the relationship with the landlord." (Tenant)*

*"The only involvement they have is when something goes wrong." Tenant)*

*"We wanted to install new local exhaust ventilation with ventilation outside premises. The Landlord was very difficult over this. Even though it would save energy we decided it simply wasn't worth the hassle." (Tenant)*

Perhaps of even more concern is that fact that 28% of landlords reported they prevented change or chose to have no involvement in energy performance.

For example, landlords reported:

*"I choose to have no involvement in energy management." (Landlord)*

*"Energy costs aren't a significant factor." (Landlord)*

## **Impact on energy efficiency**

Whilst landlords' and tenants' responses suggest that financial incentives and disincentives to energy improvements do exist, non-financial barriers to reducing energy efficiency present more significant impacts on the adoption of energy efficient technologies and behaviours within the non-domestic buildings. These attitudinal and practical barriers from non-domestic building tenure appear to prevent change or dilute incentives for change; neither landlords or tenants are incentivised to undertake financially rewarding and environmentally beneficial interventions to use less energy. In fact, many landlords and tenants appear to accept the energy status quo as they recognise their own and/or the other party's lack of ability or willingness to promote or accept change. Therefore, using voluntary good practice as a motivator for energy conservation is unlikely to provoke behaviour change, help reduce energy demand, limit carbon emissions or contribute to the mitigation of climate change.

A permanent change in attitudes, ability and willingness to change behaviour and/or adopt energy efficient interventions provoked by the recognition of the wider scope of the impact of tenure is required if socio-economic energy inertia is not to be further perpetuated. Both policy and practical actions are required to overcome the influence of personal attitudes, landlord-tenant relationships and split-incentives so that both non-domestic building landlords and tenants are encouraged to collaborate to reduce energy consumption, with benefits available to both parties and the environment.

## **Conclusion**

Although a lengthy history of energy efficiency initiatives exists alongside the widespread recognition of the need for carbon emissions savings, the UK has failed to overcome socio-economic energy inertia and deliver the energy consumption reductions required to mitigate climate change. Politically attractive but voluntary energy efficiency actions, which are considered cost effective, rational economic responses to energy price control, have been the mainstay of energy policy. However, such investments have not been made by non-domestic energy consumers. This indicates that other barriers exist to provoke socio-economic energy inertia. This paper suggests that this energy inertia stems from the impact of ownership, which extends beyond the previously recognised financial influence of split-incentives.

The research findings present willingness and ability to change as influences emanating from non-domestic building tenure and highlight their extent beyond the financial disincentives previously proposed. More extensive impacts have been highlighted that provoke socio-economic energy inertia through attitudinal and practical barriers; these barriers discourage or prevent non-domestic building landlords and/or tenants from reducing energy consumption by adopting energy efficient interventions and behaviours.

The research indicates disincentives to energy conservation are more prevalent and wide-ranging than the previously identified financial split-incentives of building tenure. Barriers from tenure appear to provoke negative attitudes, inability and unwillingness towards energy improvement, and have a much greater contribution to energy inertia than previously envisaged.

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