

# TECHNICAL BULLETIN

FOR RESIDENTIAL SURVEYORS

## PROPERTY RISK CASE STUDY - CONSIDERING RISKS IN THE CONTEXT OF FUTURE EVENTS

PROPERTY RISK CASE STUDY

FURTHER TALES OF OUR FAVOURITE  
NON-NATIVE INVASIVE SPECIES

PLUGGING INTO THE FUTURE

F AND G PROPERTIES AND THE PRIVATE  
RENTAL SECTOR

UNDERSTANDING THE EPC





# THE TECHNICAL BULLETIN

FOR RESIDENTIAL SURVEYORS

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Welcome to the Technical Bulletin. This Bulletin is designed primarily for residential surveyors who are members of RICS and other professional bodies working across all housing sectors. Other professionals may also find the content useful.

Produced by Sava, you will find technical articles, regulation updates and interpretation and best practice. We hope you find this useful in your day-to-day work and we welcome any feedback you may have and suggestions for future publications.

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We are a team of building physicists and engineers, statisticians, software developers, residential surveyors, gas engineers and business management specialists.

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# CONTENTS

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04

## PROPERTY RISK CASE STUDY

HILARY GRAYSON BSC EST MAN (HONS) , DIRECTOR OF SURVEYING SERVICES, SAVA

11

## FURTHER TALES OF OUR FAVOURITE NON-NATIVE INVASIVE SPECIES

CARRIE DE SILVA LLB (HONS) MA, HONORARY PROFESSOR OF REAL ESTATE PRACTICE LAW, ROYAL AGRICULTURAL UNIVERSITY AND SAVA TRAINER

13

## PLUGGING INTO THE FUTURE

JOHNNIE LEATHER, MA SOCIAL AND PUBLIC POLICY, PUBLIC POLICY RESEARCHER, SAVA

17

## F AND G PROPERTIES AND THE PRIVATE RENTAL SECTOR

DR LISA BLAKE, HEAD OF TECHNICAL, SAVA  
TIM KENNY ASSOCRICS, TIM KENNY SURVEYING LTD

22

## UNDERSTANDING THE EPC

JOHNNIE LEATHER, MA SOCIAL AND PUBLIC POLICY, PUBLIC POLICY RESEARCHER, SAVA

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# PROPERTY RISK CASE STUDY

## CONSIDERING RISKS IN THE LIGHT OF FUTURE EVENTS

**HILARY GRAYSON BSC EST MAN (HONS) , DIRECTOR OF SURVEYING SERVICES AT SAVA**

This case study looks at a landslip, where part of the subject property's garden slipped into the neighbouring garden.

It is a complicated and unusual case. However, it demonstrates the need for surveyors to be vigilant about the risks to the property that 'may' occur in the future, even if they are not wholly obvious at the date of the inspection, something that is more critical with the increased chance of extreme weather events caused by climate change.

### **Background**

This case study is based on a real claim against a surveyor. Due to the confidentiality of all the parties involved we cannot give the location of the property and will be using fictional names for all the parties involved.

### **The property and its location**

The subject property is a Victorian building adjacent to a substantial Victorian house. It was probably originally built as either a coach house or servants' quarters. (If it was converted from a coach house, the date of conversion is not known, and the exact purpose of the original construction is difficult to determine from the building now on site, however original construction was probably around the 1880s.)

There is a 1970s extension on the western end of the property, adjacent to the western boundary. For the purposes of this case study, we shall refer to the property as 'The Stables'. The Victorian house is now converted into several flats.

'The Stables' is a three bed two storey property, with a kitchen diner, dining room and sitting room on the ground floor. There is also a utility room and 'workshop' which, although part of the main building, are accessed from the patio (presumably this is the 1970s extension).

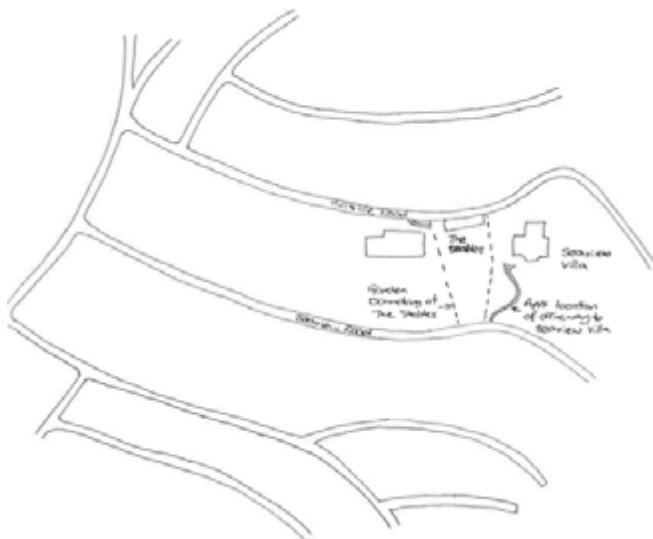
'The Stables' is located in a seaside town. The immediate area is dominated by Victorian villas (many now divided). The area is hilly and the immediate location slopes down towards the sea. The roads in the vicinity have created a

series of what are in effect ‘terraces’, and the houses tend to have sloping gardens affording sea views.

The address of ‘The Stables’ is Hillside Road. Both The Stables and the converted Victorian villa are accessed from Hillside Road.

However, the immediate neighbour on the other side, which we will call ‘Seaview Villa’, is actually accessed from Seaview Road, the lower road at the bottom of the garden of ‘The Stables’ (see plan 1).

It is also worth noting, though not specifically relevant for this case study, that the back wall of the ground floor of ‘The Stables’ is a retaining wall for Hillside Road – it abuts right against it – and that the first floor can actually be accessed from Hillside Road, though the main front door is at ground floor level.



Plan 1

**Sales history**

The property was listed for sale in 2014 and the sales particulars specifically referenced “... stunning views ... within beautiful, landscaped gardens, which offer a high degree of privacy”.

The Rightmove logbook shows it was surveyed in 2003 and again 2009 and listed twice in 2014 with HMLR data for 2015. Therefore, it can be presumed that the previous owners lived there from at least 2003.

**The desktop research**

The property is in an area with Meadfoot slate geology of mudstones, siltstones and sandstones with limestone beneath. The geology of the wider area is relatively complicated compared to that of some of the neighbouring towns. The British Geological Survey map shows much faulting and some folding. The complications are to be expected because much of the area consists of strata below the Permian (a geologic period and which spans 47 million years starting appx 290 million years ago to the beginning of the Triassic Period) so was therefore caught

up in a notable geological event when significant land masses shifted. This is known as the Variscan orogeny which impacted Portugal and Spain, southern Ireland, Cornwall, Devon, Pembrokeshire, the Gower Peninsular and the Vale of Glamorgan.

While the underlying bedrock may be complicated, this slate rarely gives cause for concern, although on a sloping site, the layers of slate can form a slip plane if angled sloping downhill and sometimes houses can slip.

The flood mapping shows no particular problem of water running down the hill, but of course that will be occurring to some extent both above ground and, unseen, below ground.

However, as we have seen, this is an area dominated by Victorian villas and ‘terraced’ roads; therefore, it is likely that these terraces are man-made from the Victorian era when stone rubble ‘gravity’ retaining walls were used to create the terraces up the hillside in a ‘cut and fill’ fashion. The earth behind the retaining wall is very likely to be ‘made ground’ so consequently less compact than under the actual house.

Because of this, the increasingly heavier vehicles create compression and lateral force which can damage and push over walls. This would be something to look out for specifically on-site.

In conditions with built-up ground as in this case study, ‘soil creep’ can occur. This is the most common form of UK landslide. This will also push against walls.

We are experiencing more rainfall and soggy ground creates more ‘over-turning force’ behind retaining walls. Climate change will cause more of these problems. Imagine made ground behind a wall becoming ever more saturated and slumping down - at the same time it will push outwards against the wall.

Rubble walls are naturally quite water permeable so hydrostatic pressure is relieved by water passing through the wall quite readily (so usually no weep holes or land drains), but this is not always the case - capillaries can get blocked (with the local clays for example). And if a wall is overgrown with vegetation the plants expand and start to cause damage to the exposed outer face. A rubble wall provides good compressive strength but not much resistance to lateral force after a certain point. Once the outer face loses strength the rest can go suddenly; rarely is the inner face of a rubble wall well bonded to the outer, let alone to the ground behind the wall. Ground anchors are a good option if you notice the signs of failure early enough.

**The inspection and report**

In March 2015, the surveyor, S, inspected the property and produced a report for his clients Mr and Mrs T.

S undertook a level 2 inspection and report (this was discussed as part of the claim, but we are not going to



debate the issue of whether this should have been a level 3 inspection and report. The issues would still have arisen. Also, this was before the publication of the RICS Home Survey Standard).

S completed a detailed site plan and specifically noted:

- That the site was generally south sloping down to Seaview Road
- That there was a section of retaining wall visible immediately adjacent to Hillside Road (at this section of the wall the land was higher on the side of Seaview Villa.)
- That the whole garden was ‘mature’ with trees and mature hedging along the boundary with Seaview Villa

Although not specifically mentioned in the site plan, it is obvious from Google Maps that it is impossible to see the boundary wall between The Stables and Seaview Villa from Seaview Road. The driveway curves away from the boundary wall and the wall is not visible without trespassing.

When viewed from Hillside Road only the roof line of Seaview Villa is visible – no mention of the different ground level was noted in the report. See Picture 1 showing the roofline of Seaview Villa.



**How the claim arose**

Mr and Mrs T went on to purchase the property and moved in at some point later in 2015 (likely spring).

Three years later, in January 2018, there was a significant landslide affecting the garden of ‘The Stables’ and the neighbouring property ‘Seaview Villa’, accessed as we know from the road below – Seaview Road. In effect, part of the garden of ‘The Stables’ fell into the garden belonging to ‘Seaview Villa’.

The initial course of action on the part of Mr and Mrs T was to turn to the neighbour, Mrs U, in ‘Seaview Villa’ on the basis that they had a right of support. This happened in May 2018, appx 4 months after the landslip.

Now, this is conjecture, but it is our guess that Mr and Mrs T were underinsured with their buildings insurance policy. We doubt that it covered retaining walls and cliffs. Most standard policies will not, and it is incumbent on the insured to make sure all potential risks are covered by the policy. We suspect that they first turned to the insurers and when that course of action failed, they instructed a solicitor to

help them.

Mr and Mrs T claimed a right of support but Mrs U in turn, claimed that at some point in the past the predecessors of Mr and Mrs T had banked soil against an inadequate block wall. In turn, Mr and Mrs T maintained that the terracing was in place at least 33 years previously when their predecessors acquired ‘The Stables’.

Mrs U had clearly been in residence at Seaview Villa for some considerable time and apparently had records of what had happened over the previous years, which included the removal of trees adjacent to the boundary. There turned out to be a fairly detailed history of what had been going on. However, the wall on the Seaview Villa side was high, and Mrs U ‘was not aware of the activity on the other side of the garden wall’ (i.e. the banking up of soil as she had claimed) since she could not see over it.

In essence, Mrs U claimed that the banking of the soil against an inadequate wall led to the collapse, that Mr and Mrs T have no right of support and that rather Mrs U should be looking to them to remove the terraces and make good the retaining wall etc.

The summary of this is as follows:

- Date of Report – March 2015
- Land collapse – January 2018
- Letter before Action sent by solicitors appointed by Mr and Mrs T was sent to Mrs U of ‘Seaview Villa’ in May 2018
- Email from Solicitors acting for Mrs U was sent to the solicitors acting for Mr and Mrs T in July 2018
- Letter of claim from solicitor acting for Mr and Mrs T received by the surveyor in August 2018

**What we now know about the wall between The Stables and Seaview Villa**

It turned out that there was an “upper” and “lower” wall (it is assumed that the upper wall marked the actual boundary between the properties) which were separated in elevation by a narrow tract of land. Apart from the very southern tip of this tract of land, none of this was visible from the entrance to Seaview Villa and could only be seen within its grounds.

The narrow tract of land varied in width and slope along the extent of the boundary. At the southern limit, the tract is 1.6m wide and virtually flat. It gradually increases to 2.6m wide towards the northern end of the boundary and the slope is as much as 60 degrees.

The lower wall was also a retaining wall and enabled a flat driveway to cut through to Seaview Villa.

Over the years, several trees had grown along this tract of land and at some point been cut down. There were several stumps, and correspondence seen by the surveyor’s solicitor talks of this work being commissioned by Mrs U of Seaview Villa.

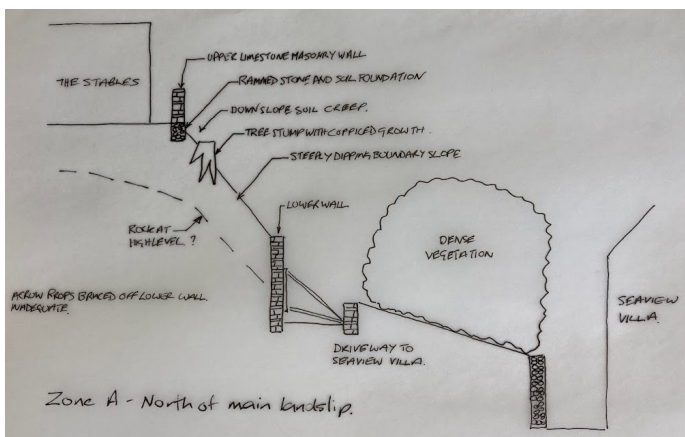
An engineer appointed as part of the litigation process

estimated that the upper wall had been modified within the previous 50 years and that the land on which Seaview Villa was constructed was itself also modified, presumably in the mid-1800s when Seaview Villa was built.

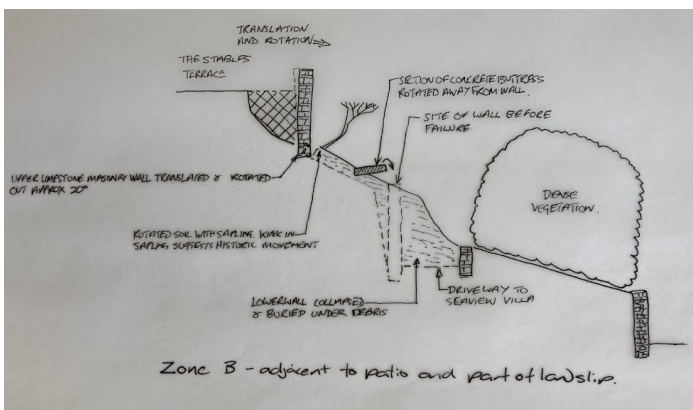
**The landslip**

For the purposes of discussing the landslip, the boundary between the two properties was divided into 4 zones:

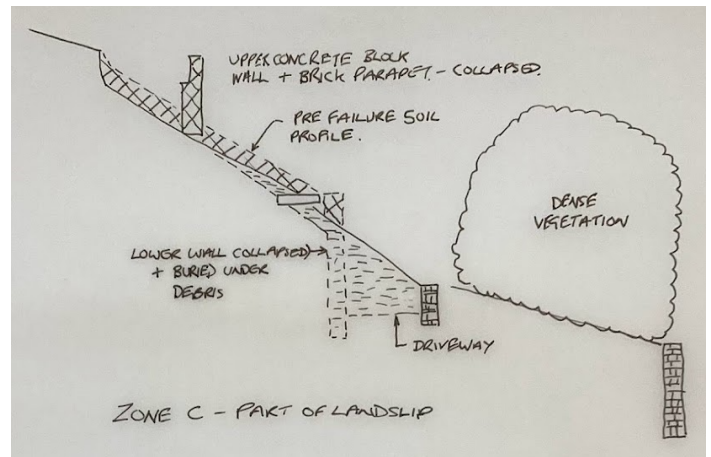
- Zone A – this was north of the main landslip – the upper wall is a limestone rubble wall and leans towards The Stables and has in the past been buttressed. The surveyor could see and noted this in his report.



- Zone B – 5-6m section which formed part of the landslip and borders the patio of The Stables. The upper wall here is also a limestone rubble wall covered with thick vegetation and with planters in front. The surveyor could not see this wall clearly.



- Zone C – 7m section which formed part of the landslip. The upper wall here was a concrete block wall, built on top of the limestone rubble wall of Zones A and B, approximately 15 blocks (2.3m) high at the southern end of Zone C and extending to appx 2.9m high at the northern end of Zone C, having been heightened further by the use of good quality red bricks. There was considerable ivy growth over the wall in this Zone. (For clarity, the height is from within the grounds of Seaview Villa, not The Stables). The mature flower beds in front of this section of the wall meant the surveyor could not see this clearly.



- Zone D – south of the landslip. Within the grounds of The Stables after the landslip, there was evidence of repairs.

Along all zones, the “lower” limestone rubble wall runs along the side of the driveway and within the grounds of Seaview Villa. As mentioned above, this lower wall also acts as a retaining wall supporting the tract of land existing between it and the upper wall. It varied in height from 2.1m to the south of the landslip to 3.6m.

Although not visible by the surveyor from within the grounds of The Stables or from Seaview Road, parts of this lower wall were supported by acro props at the time of the landslip. It is not known how long those props had been in situ, but photographs suggest that they had been there for some time.

This engineer noted in his report that “given the extent of the vegetation present in the pre-purchase photographs it is unlikely that the upper wall of the slope beyond would have been sufficiently accessible or visible to make an informed decision”. They also noted evidence of the removal of trees from the tract of land and evidence of some previous movement.

**The basis of the claim against the surveyor**

The claim stated that the surveyor was negligent for the following reasons:

- That he should have notified the purchasers that a home condition survey of this type was inadequate in scope to assess a period property of this nature, particularly one standing as it does on an elevated site adjacent to a significant drop to the east. (This related to the then RICS guidance on when a Building Survey should be offered.)
- That the surveyor, having accepted instructions, should have commented upon and noted the condition of all retaining walls.
- That the surveyor should have followed the trail of evidence which ought to have put him on notice that the eastern boundary wall had suffered movement in past years and noted the substantial drop in ground level.
- That the surveyor should have identified any risks to

the building or boundary features which could affect the value of the property (even though this was only a condition report and not a valuation and Mr and Mrs T were clear on that point).

- That the surveyor should have advised in detail in respect of the inherent risks involved with period stone or block walls of this nature, which are not designed to act as retaining walls, particularly so given the size of the wall in question, its proximity to the dwelling and the extent of the drop to the land below.
- To advise in relation to the risks posed by the large number of large trees surrounding the building, and those that have fallen, which are in sufficient proximity to the building and boundary walls so as to present a risk to the building or structures upon the land.
- To make clear the limitations of inspection in respect of the external parts to include commentary with regard to all walls which form the boundary with adjacent properties, and which are not fully visible from any public areas or from within the grounds of the property.
- To recommend further investigations be carried out in respect of boundary walls in the “Further Investigations” section of the survey at page 9 if you did not consider yourself sufficiently equipped to provide commentary in respect of the same.
- To complete the “Legal Issue” section at page 10 in respect of boundaries - this had been left blank.
- In the “Grounds” section of the survey, to advise on any limitations of inspection and to recommend any “follow on inspection” necessary in respect of the retaining wall; for instance, the appointment of a structural engineer.
- To provide advice in regard to ongoing repairs and maintenance of period retaining walls, the relative importance of the buttresses already installed, the risk of large adjacent trees and root systems and the risk associated with period retaining walls on steeply sloping sites.

### What the surveyor reported

The surveyor described the walls that he could see.

#### Paved Areas:

*There are paved areas and paths to the front consisting of block pavers that are in good condition. The parking area to the front of the garage is concrete slabs some of which are cracked. The rest of the drive is tarmac and in fair condition. The steps leading down to the terraced garden are a mix of stone and paving slabs – easy to walk on and in good condition.*

#### Boundary and retaining walls:

*The stone boundary wall to the road is leaning outwards. It has reinforcing metalwork strapping the wall. I was advised that the council are responsible for the wall and recently excavated out the foot of the wall for a*

*considerable length of the road and poured reinforced concrete. The upper end of the east boundary is also a leaning stone wall which has been buttressed. The rest of the east and west boundaries narrow down to form a triangle with post and wire netting and hedging. All are stock proof.*

#### Grounds:

*The grounds at the top of the garden are level with a large paved patio area with a pergola supporting a wisteria. Some of the timbers of the pergola have rot but the timbers are largely supported on brick piers and braced with metalwork. Beyond the paving is the lawn then the garden slopes downhill with some terracing by some low walls and shrubs.*

### Refuting the complaint:

The first issue to address was if a level 2 inspection and report was appropriate for the subject property and if a building survey had been delivered then the risks would have been reported differently. (It is worth noting that one of the experts appointed confirmed that they thought a level 2 inspection was appropriate.)

RICS standard terms for building surveys at the time stated :

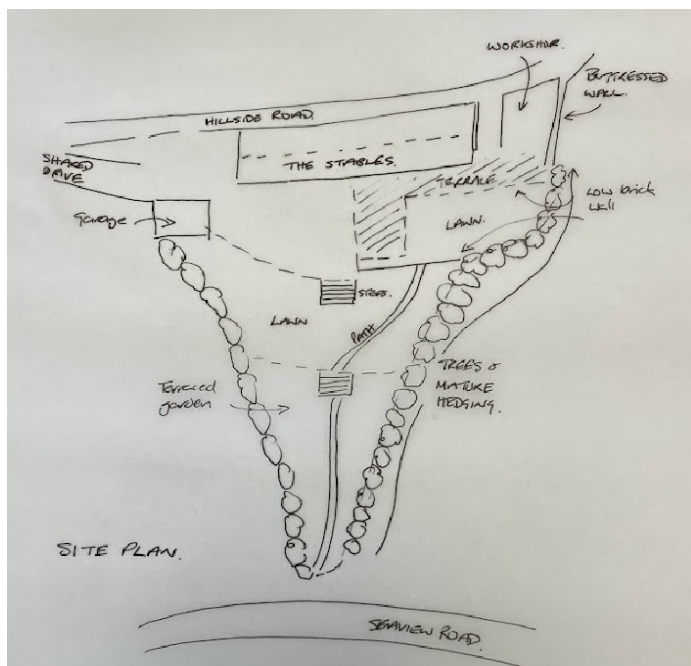
*“Outside the property - The surveyor inspects the condition of boundary walls, fences, permanent outbuildings and areas in common (shared) use. To inspect these areas, the surveyor walks around the grounds and any neighbouring public property where access can be obtained. Where there are restrictions to access (e.g. creeper plant, these are reported), and advice is given on any potential underlying risks that may require further investigation. “*

It was argued that even if a building survey had been commissioned the surveyor would not have reported any differently as there was no way the surveyor could see the drop over the boundary wall without trespassing on the neighbouring property (indeed the engineer made it clear in his report that the detail of the two walls and the tract of land within the grounds of Seaview Villa were not visible.) Also, it is not possible to determine a difference in ground level from Google Earth. There was nothing to suggest other than a continuous slope.

In addition, there was nothing on the day of inspection to suggest the ground was unstable in any way.

The next point addressed was if the surveyor should have commented more on the condition of the retaining walls. But (and again the engineer’s report confirmed this) it was not possible from within the curtilage of The Stables to even determine that the other walls were retaining walls along the boundary with Seaview Villa, never mind the construction, appropriate design and condition of them. The site notes included an excellent site plan that clearly shows mature trees along the boundaries on either side. (see plan 2).





Turning to the trees and vegetation at the boundary, should the surveyor have given more advice “in relation to the risks posed by the large number of large trees surrounding the building, and those that have fallen, which are in sufficient proximity to the building and boundary walls so as to present a risk to the building or structures upon the land”?

Again, the site notes record the mature gardens, and we know from the later engineer’s report that the owner of Seaview Villa had felled some trees along the ‘tract of land’ between the two retaining walls within the curtilage of Seaview Villa. While large trees overhanging the property could have posed a risk to the structure there were no such trees present at the date of inspection and no evidence of felled trees from the garden of The Stables.

Finally, should the surveyor have made the limitations of inspection clearer in the report?

In retrospect, this is possibly a fair question. The surveyor could have made reference to the shrubs at the border limiting the inspection, although there was nothing at the date of the inspection to give cause for concern, which is also why the surveyor did not recommend further investigation relating to the boundaries – there was nothing on site to indicate a potential problem at the date of the inspection. The terms of the report itself make it clear that the surveyor will not trespass on property when carrying out the inspection.

In essence, the argument was that since the surveyor could not see the retaining wall (or even identify it as such from within the gardens of The Stables – assuming just a sloping site down to Seaview Villa) he did not follow the trail (there was none to follow), report on the boundaries in the legal section (there was nothing to suggest retaining walls or any potential for who was liable to who) and report on maintaining historic retaining walls (he did not know they were retaining.)

**What happened next?**

Communication with the claimants went quiet for almost 18 months, but in early 2021 the solicitors acting for Mr and Mrs T again made contact indicating that they wished to proceed with the claim against S, the surveyor.

The claimants would have had six years in which to issue any claim. The clock started ticking at the date when the ‘cause of the action’ started – the date of the survey in March 2015. This meant that the limitation would expire in March 2021.

Because time was getting tight the claimants suggested the parties enter into a Standstill Agreement to suspend the limitation date to give the parties time to enter into mediation rather than going straight to issuing proceedings. The claimants were also trying to persuade Mrs U to take part in a mediation, therefore it made sense to agree to the standstill.

It is worth noting several relevant points at this stage:

- The period of quiet was likely due to the claimants getting detailed advice on the diminution in value of The Stables because of the landslip. However, it might also have been down to the fact that the claimants refocussed their attention on Mrs U of Seaview Villa and only when that was obviously not going to get anywhere did they decide to pursue the claim against the surveyor, S. This is only conjecture but in the light of the ‘messy nature’ of the whole situation a feasible suggestion.
- Although the cost of repairing the retaining wall was estimated at over £300,000, the way the claim against the surveyor would proceed was based on the diminution of value of the property, even though the original report did not include any comment on valuation.
- Despite agreeing to mediation, it was always the surveyor’s position that the failure by Mrs U to maintain the walls and the tract of land adequately at Seaview Villa lead to their ultimate failure.
- Although the expert instructed on the surveyor’s side did not consider the surveyor was negligent, the claimants’ expert believed the surveyor did not meet the standards expected of a reasonably competent surveyor when advising on the Grounds and Boundaries section of the report.
- The surveyor’s insurers had indicated that they would be open to mediation – generally insurers are much happier to negotiate a claim rather than going to law due to costs and uncertainties involved with this, particularly when the expert’s evidence contradict each other; a pragmatic approach is usually taken.

Mr and Mrs T and the surveyor did go to mediation (unfortunately, despite efforts on the claimants’ side, Mrs U did not attend the mediation) and a settlement between the surveyor and claimants was negotiated. The figure agreed, though substantial, was below the full quotes for repair and less than the full diminution in value.

**Conclusion**

There is much about this case that suggests ‘a perfect storm’. We do not know and can only speculate that:

- Mr and Mrs T were not fully insured via their building policy for landslip and retaining walls.
- Mrs U next door was probably in a similar position – though on the face of it she was an ‘affluent’ individual she was possibly not ‘cash rich’.
- The ownership and alterations to the boundary walls were lost in history.

While pursuing the surveyor might seem unfair and his defence sound, in practice there was little Mr and Mrs T could do.

On reflection, the surveyor could have protected themselves further if:

- They had recommended the conveyancer check the ownership of the boundaries or if any modifications had ever been undertaken to the boundary walls.
- They had treated the obvious sloping site as a ‘risk’ (even though they could not see the problem walls) and advised the client appropriately, including making sure their insurance covered land slip and

retaining walls.

- They had considered the geography of the area more generally, the evidently ‘made up’ terracing of the local roads, the clear drop in land between The Stables and Seaview Villa.
- They had consideration to the potential impact on a sloping site and made up ground with potentially more extreme weather events triggered by the changing climate.



**Hilary Grayson BSc EST MAN (Hons) is the Director of Surveying Services at Sava**

Hilary’s focus is on developing new qualifications and Sava’s activities within residential surveying. Hilary has a wealth of experience within the built environment, including commercial property, local government and working at the RICS.

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# FURTHER TALES OF OUR FAVOURITE NON-NATIVE INVASIVE SPECIES

## DAVIES V BRIDGEND

**CARRIE DE SILVA LLB (HONS) MA**, HONORARY PROFESSOR OF REAL ESTATE PRACTICE LAW, ROYAL AGRICULTURAL UNIVERSITY AND SAVA TRAINER

Surveyors and valuers will be familiar with activity in the courts in recent years with regard to the presence of Japanese knotweed (*Reynoutria japonica*). As most readers will know, there have been cases where surveyors have been found to be negligent for not identifying knotweed on site, and not reflecting its presence in a diminution in value, largely associated with the necessary remedial work (e.g. *Ryb v Conways Chartered Surveyors & Ors* (2019) unreported). And, by way of balance, where surveyors demonstrate reasonable care, then negligence claims will, of course, fail (e.g. *Davies v Marshalls (Plumbing and Building Development) Ltd and Connells Survey and Valuation Ltd* (2018) Birmingham County Court, unreported). This article looks, however, at private nuisance, i.e. where a claim is made against a neighbouring landowner.

There has been some interesting County Court activity on nuisance claims (e.g. *Smith and Smith v Line* (2017) Truro County Court, unreported) but it gained wider interest and analysis in *Williams and Waistell v Network Rail* [2018], where the Court of Appeal explored (although was not unanimous) on just how the presence of knotweed fulfilled the requirements of the law of private nuisance. Nuisance is, essentially, founded on alternative terms: simply, either (a) there is physical encroachment which causes damage or (b)

there is a disruption to the claimant having quiet enjoyment of their land, i.e. the loss of amenity. It was held that a diminution in value (not disputed) was not, of itself, damage under the first head, but that the loss of value could disturb the quiet enjoyment and was thus recoverable.

The grounds and nuances of nuisance have, again, been recently explored by the Court of Appeal in *Davies v Bridgend County Borough Council*, reported in February 2023. In this

case, Japanese knotweed encroached from land owned by the local authority (being a disused railway, now a cycle path) onto the garden of the claimant’s terraced house in Bridgend, South Wales.

Marc Davies purchased the property (which he subsequently let) in 2004. It was deemed likely that the weed encroached onto the land before 2004. Indeed, knotweed was acknowledged to have been in the area for over 50 years. At first instance, the council was found to be in breach of its duty to deal with the knotweed from 2013, taking the date of release of the first RICS guidance on knotweed (2012)<sup>1</sup> plus a ‘generous’ period to become updated and act. So, the breach lasted from 2013 until the commencement of a treatment programme, a tardy five years later, in 2018.

Arguments asserting a lack of liability due to the weed encroaching before the date of the breach were rejected on the grounds that there was a continuing, persisting nuisance. Damages were claimed under various heads, most of which were dismissed on the facts, and the only item on appeal was for a claim for blight, i.e. a diminution in value persisting after successful treatment and eradication due to the stigma of the property having been associated with Japanese knotweed. Although the claim was only £4,900, modest in terms of court actions, it was felt to raise a significant point of law such that leave was granted to take the matter to the Court of Appeal.

The claim for residual diminution in value had failed in both the County Court and on first appeal. The reasoning in these courts was based on an understanding that the *Williams* case allowed no claim for pure economic loss (as is the accepted position on tortious damages) and that the diminution in value was pure economic loss. *Williams* specifically highlighted that ‘the purpose of the tort of nuisance is not to protect the value of property as an investment or financial asset. Its purpose is to protect the owner of land (or a person entitled to exclusive possession) in their use and enjoyment of the land’ (at paragraph 48).

Although *Williams* was quoted as a basis for the unrecoverability of pure economic loss, it was held in *Davies* that if nuisance is established on standard grounds (through physical damage or loss of quiet enjoyment) then the consequential losses (including residual diminution in value) can be claimed for. The non-trivial presence, or even proximity, of knotweed rhizomes and roots allowed a finding of actionable nuisance due to interference with quiet enjoyment. Losses stemming from that presence are not, then, pure economic loss, due to the physical nature of the fulfilment of the requirements of private nuisance.

So, in summary:

The earlier hearing and first appeal analysis that *Williams and Waistell v Network Rail* was precedent in support of the established principle of no claim for damages for pure economic loss was overturned to the extent that diminution in value of property was, in this case, *not* an instance of pure economic loss in that it resulted from the physical presence of rhizomes and roots.

1. Current guidance: RICS Professional Standard Japanese Knotweed and Residential Property, 1st ed., January 2022.

Where the nuisance (e.g. knotweed) exists before the defendant owns (or is otherwise responsible for) the property, they will still be liable where a duty of care is established and the nuisance is continuing.

Where the nuisance has been successfully dealt with, there can still be liability for the ongoing, persisting impact on values on the basis of residual damage/blight.



**Carrie de Silva LLB (Hons) MA**

On graduating with a law degree from the University of Leicester, Professor Carrie de Silva worked in corporate taxation, initially for Arthur Andersen. She lectured in law and taxation to prospective rural chartered surveyors at Harper Adams University for

over 20 years before being appointed as an Honorary Professor of Real Estate Practice Law at the Royal Agricultural University. She is course content writer and trainer on the legal elements of Sava courses.’

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# PLUGGING INTO THE FUTURE

## DOMESTIC ELECTRIC VEHICLE CHARGEPOINTS AND WHY THEY MATTER

**JOHNNIE LEATHER**, PUBLIC POLICY RESEARCHER, MA SOCIAL AND PUBLIC POLICY, SAVA

THIS ARTICLE IS PARTIALLY BASED ON “PLUGGING INTO THE FUTURE”, NF90, WRITTEN BY SAVA’S CONSULTANCY DIRECTOR, NEIL CUTLAND, FOR THE NHBC FOUNDATION. USED BY KIND PERMISSION OF THE FOUNDATION.

The successful rollout of Electric Vehicles (EVs) is heavily reliant on corresponding infrastructure, of which chargepoints are a fundamental part. Put simply – without enough chargepoints, EVs will not be viable. With the UK requiring roughly 4.1m chargepoints by 2030, how and where we build these chargers is a topic of great importance.

### Introduction

As part of the government’s net zero carbon strategy, the UK is moving to an electricity-based society. This means transitioning everything from home heating to vehicles to be electrically powered, whilst simultaneously scaling up renewable generation.

Currently, only 2-3% of the cars on the road are fully electric or hybrid, illuminating the scale of the challenge posed by switching away from fossil-fuelled cars. With EV registrations set to nearly double in 2023 from 267,203 to an estimated 448,000, raising the market total to 1.8 million, progress is being made. However, it is no good everyone having an EV

if we do not have the chargepoints in place to power them.

In the same way that we all charge our phones overnight whilst sleeping, this is most users’ preferred way of charging their EVs. Therefore, homes are one of the most sought-after places for chargepoints, making our properties a key area of the transition.

### Policy space

To enforce the transition to EVs the government has set targets for no new cars or vans to be wholly petrol or diesel fuelled by 2030, and from 2035 new hybrid vehicles will be outlawed too. In addition to this, some local councils have

taken their own measures to encourage change, such as the Ultra Low Emissions Zone in London.

When it comes to chargepoints, the newly created Part S of Building Regulations – which covers ‘infrastructure for the charging of electric vehicles’ – is the most significant legislation. Part S came into effect in June 2022 and requires all new-build homes that have a parking space within the boundary to be fitted with a smart chargepoint, delivering a minimum of 7kW of power.

To support the purchase of chargepoints, the Office for Zero Emissions Vehicles (OZEV) offers the EV Chargepoint Grant. There are three versions of the grant, each with different consumer targets. In all its different guises, the grant covers people who live in rented properties or own a flat with dedicated off-street parking, businesses with staff and fleet parking, and landlords for properties other than that in which they live. The Grant provides £350 or 75% (whichever is lower) off the cost of purchase and installation. In Scotland, additional funding is available on top of the OZEV Grant with its own specific eligibility requirements.

**Types of chargepoints**

Chargepoints are becoming increasingly common in everyday life, seen in a whole host of locations from supermarket car parks to office spaces, and ironically, petrol stations. The variety of chargepoints is not limited to location but is extended to types of chargers too, with the distinguishing feature being the provided power output.

There are three kinds of stationary chargepoints – each aptly named after the speed at which they can power cars – ‘rapid’, ‘fast’, and ‘standard’. ‘Rapid’ chargepoints boast the highest power output ranging from 43kW to 50 kW. These are becoming more common and do tend to come at a premium cost per charge because of the speed at which they can charge cars. As technology progresses, we are even starting to see some chargepoints reach up to 350kW, dubbed ‘ultra-rapid’. Currently these are only really found at motorway services.

‘Fast’ and ‘standard’ chargepoints are more likely to be seen installed at homes. ‘Fast’ chargepoints deliver 7kW, meaning they comply with Part S of Building Regulations, so will be commonly installed at new-builds. ‘Standard’ chargepoints are older and operate at an inferior 3.6kW, hence are only really found at properties where chargepoints have been added post construction.

For reference, to fully charge a small 40kW car battery, it will take 11 hours with a ‘standard’ chargepoint and six hours with a ‘fast’ unit. Whereas a 50kW ‘fast’ chargepoint can charge the same sized battery to 50% in around 20 minutes.

All types of stationary chargepoints have ‘smart’ versions (Part S compliant chargepoints must be smart). Smart chargepoints give consumers more control over charging, allowing them to monitor, manage, and restrict charging from a mobile app.

As smart chargepoints can automatically adjust charging

power, they also give district network operators the ability to alter a car’s charging pattern to fit the needs of the electricity grid, known as vehicle-to-grid services. This will only happen at properties where permission is given by the consumer and specific terms are agreed. Possibilities like this, facilitated by smart chargepoints, will be explored more extensively later in this article.

Finally, we have portable charging cables fitted with a 13A supply which can go directly into a wall socket. These tend to come with EVs and require no additional infrastructure making them useful but slow. For this reason, portable chargers tend to be a last resort, to be used at dwellings without a stationary charger. Portable charging cables are not Part S compliant.

**Connecting cables**

The cables that feed into the vehicle from chargepoints come in three variations. The oldest and least common type in the UK is a five-pin connector known as ‘type 1’; these are capped at 7.4kW. ‘Type 2’ connectors have seven pins and are more common, allowing for faster speeds of up to 43kW. Both cable types deliver grid electricity in AC to the car, which is converted to DC (the form required by the battery in the car).

Cables compatible with even faster charging are becoming increasingly common. Known as CCS cables, they are similar to ‘type 2’ connectors but have an additional two pins. CCS cables enable enhanced charging speeds because they can deliver DC straight from the chargepoint to the car’s battery, where this is available, such as at ultra-rapid chargepoints.

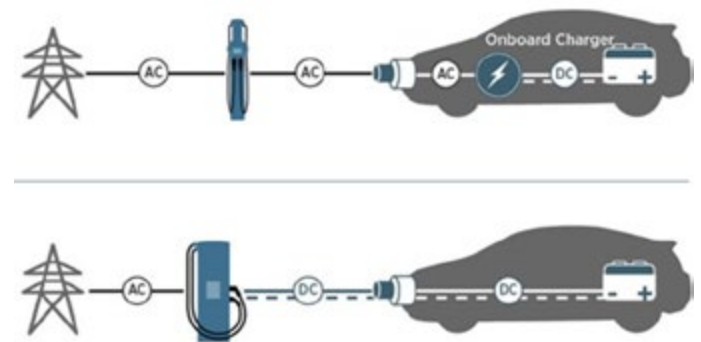


Figure 1: The top diagram depicts the electricity transfer when using ‘type 1’ and ‘2’ cables, whereas the bottom diagram shows the exchange that occurs when using CCS cables. Credit: ChargePoint

The cable type used is down to the specific port on the car, and most chargepoints are fitted with universal sockets accepting all types of cable. This removes the risk of older vehicles being phased out by a lack of chargepoint availability and stops one car manufacturer from having a monopoly on the market.

**Domestic chargepoints and their impact on the property market**

EV chargepoints must be installed outside or in outbuildings such as a garage. They can be a standalone post or attached to the wall. Chargers must comply with Part M of



Building Regulations and the Equality Act 2010, to ensure that everyone is able to use and access them. For example, manual controls must be within reasonable reach for all occupants, chargepoints must be void of trip hazards, and there must be adequate surrounding space for ventilation and cooling.

At the time of writing, the average home chargepoint costs around £1,000 including installation. The photographs below show two examples of chargepoints which could be seen in new-build homes as they provide 7kW of power, therefore making them compliant with Part S.



Credit: PodPoint



Credit: Andersen  
Figure 2 and 3: examples of chargepoints found in new-build homes

Interestingly, when speaking to the property industry, we heard different stories from two separate sides of the market – valuers and buyers.

Sava Trainer, Fiona Haggett FRICS, said:

*“I’ve not yet seen any lender activity on this point, and it*

*has not been the subject of discussion at any of the forums I attend. The focus recently has been on flooding, EPCs, coastal erosion and subsidence risk.*

*I have also never seen any mention of EV chargepoints in a valuation report. However, I am sure EV factors are beginning to feed into the “value decisions” made by purchasers and an EV chargepoint in a house has to improve marketability as the number of electric cars increases.*

*I am actually having my garage rebuilt at the moment and part of the required spec for me is an EV chargepoint – as it has to be a good idea to future proof the property and help sell it in a few years’ time.”*

Conversely, when talking about the importance of EV chargepoints for buyers, Paul Swindlehurst, partner at estate agents Michael Anthony, said:

*“Over the last 12 months EV chargepoints have become an increasing issue. This is largely in older and conservation areas that don’t have the facility to guarantee near-home parking, let alone somewhere where an EV chargepoint can be placed.*

*There have been several instances where potential buyers have turned up to view properties and have then said that they have an electric car and how would they charge it, the only answer is – in these locations they can’t. This is an issue that will only rise, and a viable solution needs to be found.”*

What seems to be clear is that although EV chargepoints are yet to have an impact on valuations, it is an asset that buyers are now looking for. Therefore, it is likely it won’t take long for this demand to be reflected in valuations.

**Outside the home**

Associated parking spaces for multi-residential and mixed-use buildings also fall under the provision of Part S. Associated parking for residential use must provide one chargepoint per household in multi-use buildings, and for every 10 parking spaces one must come with an EV chargepoint. These requirements will help to ensure that those without domestic private parking can still access chargers.

The requirement to increase levels of chargepoints, which Part S places on developers, is important and will help to make the target of 4.1m chargepoints by 2050 more attainable.

**The electricity network and grid demand management**

When it comes to the electricity provision of a property, EV chargepoints can operate on a standard single phase electricity supply. However, if heating also becomes electrified, using a heat pump for example, the electricity supply may no longer be sufficient. Therefore, to future proof homes in the most cost-effective way, it might be wise to upgrade the network connection to a three-phase supply at the time of connecting a chargepoint to the home. The 2025 Future Homes Standard supply may also require all new homes to be built with three phase

provision, so it seems like this will become the standard to keep up with future domestic electricity demand.

It would be foolish to think that by ramping up EVs and domestic chargepoints there will be no extra demand placed on the grid. This is an issue that will have to be addressed, with EV charging and heat pumps set to double the UK's electricity demand by 2050. To match this demand, both generation and network infrastructure will have to be scaled up.

How this will be done is currently up for debate. The government are considering how this task will be best undertaken in its ongoing Review of Electricity Market Arrangements, which seeks to identify the reforms needed to transition to a decarbonised, cost-effective, and secure electricity system. In the meantime, what can be said with confidence is that this will be a costly task that requires a high degree of government involvement.

Although EV chargepoints will increase demand on the grid, interestingly they can actually be used to help manage demand too.

As previously mentioned, smart chargers allow electricity from an EV's battery to be transferred to the grid at peak times to help manage the supply. With electricity demand only increasing, vehicle-to-grid services will start to play a more significant role in balancing demand, and operations of this kind will likely become commonplace. It is worth noting that this is only possible with the approval of the car manufacturer, as such schemes may place greater stress on the car's battery, which could cause complications with the warranty.

Another form of grid balancing supported by smart chargers, which is already being incentivised by energy suppliers, is 'time-of-use' tariffs. These offer customers cheaper electricity prices during various periods of low demand. This works well with EV charging, as night-time tends to be the preferred time of charging for most consumers and is also when grid demand is lowest. In essence, tariffs encourage consumers to shift demand away from peak times, helping to lessen the burden on the grid.

Another type of vehicle-to-grid service is to use the battery of an EV like a domestic energy storage system, by connecting the chargepoint to the property's power supply. EV batteries could store excess generation from solar PVs or just charge up on cheaper off-peak prices. This electricity can then be used at the household's convenience.

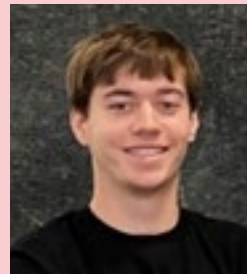
It is worth bearing in mind that with solar generation at its greatest during the day, the car must also be at the property during this time. This means, it may transpire that this is not for regular use but more of an infrequent bonus.

As discussed, the potential role of domestic chargepoints in grid demand management and the electricity network are huge, and this is only the beginning. No doubt as technology becomes more widespread and the need to manage demand more pressing, we will see an increase in innovative uses for EVs and their chargepoints.

### The future of chargepoints

There is even the prospect of wireless EV charging like that already used for phones. Siemens have forecast that the wireless EV charging market could be worth \$2bn by 2028. Wireless charging would increase the ease of car charging by removing the need for cables, however this is only in pilot form at this point, with the amount of power that could be delivered being explored. Cars are also not yet designed to support wireless charging, with the change not likely to be made until the charging infrastructure itself is fully developed.

Considering the fascinating potential held by EVs and their chargepoints to assist in grid demand management, it is apparent that chargepoints will be more than merely a vehicle to charge your vehicle.



**Johnnie Leather is a Public Policy Researcher.**

Johnnie has an MA in Social and Public Policy and carries out research on energy policy and sustainability in the built environment.

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# F AND G PROPERTIES AND THE PRIVATE RENTAL SECTOR

## A REVIEW AND UPDATE

**DR LISA BLAKE, HEAD OF TECHNICAL, SAVA**  
**TIM KENNY ASSOCRICS, TIM KENNY SURVEYING LTD**

This article was originally written in 2017. It has been updated to reflect some changes to the Minimum Energy Efficiency Standard (MEES) around exemptions and includes some comparative figures on the percentage of F and G-rated properties.

In March 2015 the ‘2015 Energy Efficiency Regulations’ were passed, which made it unlawful for private landlords to grant a new lease on a property after 1st April 2018 if that property has an Energy Performance Certification (EPC) asset rating below E. On 1st April 2020, this was extended to cover all existing tenancies of residential properties.

More commonly known as MEES (Minimum Energy Efficiency Standards), these regulations cover both residential and commercial properties in England and Wales with leases longer than 6 months and shorter than 99 years. Properties in Scotland do not fall under the jurisdiction of MEES.

An EPC asset rating of E is a SAP of 39 or above, so this legislation relates to the really poor-performing sections of the UK housing stock with a SAP rating of 38 or below.

Score	Energy rating	Current	Potential
92+	A		
81-91	B		
69-80	C		69 C
55-68	D		
39-54	E		
21-38	F		
1-20	G	18 G	

The legislation also had a sting in the tale. From April 2020 private landlords were no longer permitted to continue to let a property with an EPC asset rating below E.

This article will:

- look at exceptions to the legislation
- provide analysis on the likely size of the stock affected
- discuss the characteristics of an F or G-rated property
- explore cost-effective measures to bring a property into band E

### Energy Performance Certificates – a quick reminder

An Energy Performance Certificate (EPC) indicates how energy efficient a building is by collecting data that affects the energy performance of the property such as the wall type, the heating system present, any retrofitted insulation etc. The certificate provides an asset energy rating of the building (it reflects the potential energy efficiency of a building), where A is the most efficient and G is the least efficient. The higher the rating, the more energy efficient the building is and the lower the fuel bills are likely to be. An EPC is required whenever a building is newly constructed, sold or is let to a new tenant. The purpose of an EPC is to show prospective tenants or buyers the energy efficiency of the building.

### How big is the F and G problem?

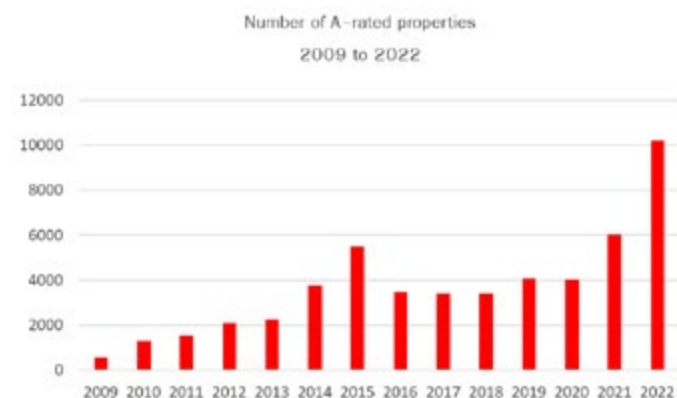
The Department for Communities and Local Government is the government department responsible for EPCs. When we first published this article in 2017, we looked at a Statistics Release covering the period Q1 2008 to Q3 2016.

A total of 355,977 domestic EPCs were lodged on the Domestic Register during the 3rd quarter of 2016 (ending 30th September) in England and Wales. 13 per cent of domestic properties for which EPCs were lodged on the Domestic Register during this quarter were awarded an Energy Efficiency Rating of either A (the highest) or B. A further 62 per cent were awarded a Rating of either C or D, while the remaining 25 per cent were awarded a Rating of E, F or G (the lowest). Unfortunately, DCLG does not break that 25 per cent E, F and G down into F and G.

Compare this to the latest data available for the quarter of October to December 2022, where 438,000 EPCs were lodged on the Energy Performance of Buildings Register in England and Wales. The statistics are broken down into existing dwellings and new dwellings. 4.2 per cent of existing dwellings were rated A or B, and 87 per cent of new dwellings were rated A or B. 84 per cent of existing dwellings and 12 per cent of new dwellings were rated C or D. 9 per cent of existing dwellings and 1 per cent of new dwellings were rated E, and finally, only 3 per cent of existing dwellings and 0.3 per cent of new dwellings were rated F and G. This shows a marked improvement compared to the 25 per cent rated E, F and G in the third quarter in 2016 as 13.3 per cent in the last quarter of 2022 were rated E, F and G.

	Q3 2016	Q4 2022	
<b>EPCs lodged</b>	355,977	438,000	
		<b>Existing dwellings</b>	<b>New Build dwellings</b>
<b>EPC Band A or B</b>	13%	4%	87%
<b>EPC Band C or D</b>	62%	84%	12%
<b>EPC Band E, F or G</b>	25%	12%	1%

In 2016, there was a total of 1,492,581 lodgements and 99,697 of those were rated F or G, this equates to 6.67 per cent. Compare this to the 2022 lodgements, where there was a total of 1,761,256 and only 41,424 were rated F or G, that's only 2.35 per cent. This shows that the F and G problem is improving. The below charts highlight the increase in A-rated properties since 2009 and how F and G properties have been in decline.



### Exemptions

There are exceptions to the legislation:

#### Devaluation

An exemption from meeting the minimum standard will apply where the landlord has obtained a report from an independent surveyor who is on the Royal Institution of Chartered Surveyors (RICS) register of valuers advising that the installation of specific energy efficiency measures would reduce the market value of the property, or the building it forms part of, by more than five per cent.

#### High Cost

This exemption covers properties where any individual improvement would cost a minimum of £3,500 including VAT. A registered exemption under this category only lasts for five years, at which point the landlord must again try to improve the EPC rating. If it is still not possible then a further exemption can be obtained for another five years.

#### All relevant improvements made

The landlord has already installed measures up to a cost



of £3,500 including VAT and the property is still below an E band.

If the property is an F or G, but the landlord has already installed all cost-effective measures, then the property is exempt.

In what situations might this apply? An example could be a solid-walled property with an old oil boiler, no loft insulation and single glazing. Of the recommendations on the EPC, only loft insulation and draughtproofing would be cost-effective and these only raise the SAP rating to 37, which is still an F. Thus, in this scenario, unless other funding was available, the property would be exempt from the legislation to reach an E.

This exemption lasts for five years after which the landlord must try again to improve the EPC rating of the property. It may be that over the intervening time, there have been changes in technology or new options available.

**Wall insulation exemption**

This exemption can be applied for where all relevant works relate to wall insulation. Not all properties are suitable for wall insulation, such as those in exposed coastal locations.

To obtain an exemption under this heading, the landlord must obtain a written report from an expert stating that such insulation would have a detrimental effect on the fabric or structure of the property.

**Consent**

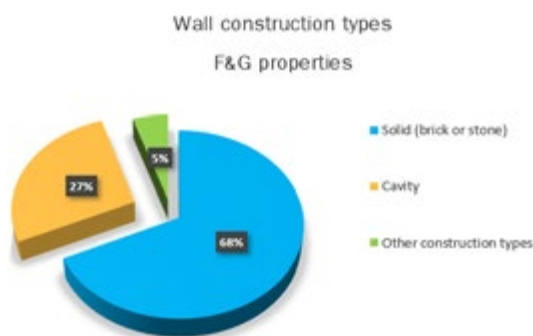
It is not possible to gain consent required for the works to be completed from the tenant, lender, or superior landlord. If the tenant refuses to have the energy-efficient measures installed, then the landlord would have a valid exemption.

**Temporary exemption due to recently becoming a landlord**

In some circumstances, a landlord can be granted a six-month exemption. These are very limited circumstances and are mainly related to certain legal situations. Full details can be found within the full guidance document for the legislation.

**What does an F or G-rated property look like?**

Most F and G-rated properties have solid walls, either



Data from 2017

solid brick or stone (68%). Around 27% of F and G have cavity walls.

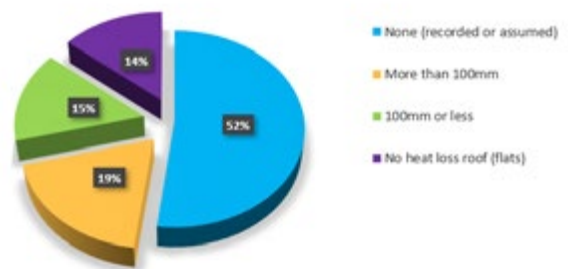
Cavity walls would be a cost-effective measure to fill, so are there other characteristics of those cavity-walled F and G properties we can identify?

The majority (83%) of cavity-walled F and G properties are heated by fuels other than mains gas. Those heated by main gas tend to be heated by room heaters or have no loft insulation (none would be assumed for properties older than 1966 if the EPC has recorded no access or unknown).

For solid-walled properties in F or G bands, the majority (73%) are heated by fuels other than mains gas, with electricity being the main fuel for 43%.

Loft and roof insulation play a big part in keeping ratings low and can be a cost-effective measure. We found that over half of all F and G properties had no loft insulation recorded or inferred from the age of the property if there was no access.

Loft and roof insulation in F&G properties



**Getting to an E band**

Some of the F and G properties will be close to the boundary of an E; SAP 39. For those properties, simply adding in low-energy lights or draughtproofing could be enough to raise the SAP band. We identified five properties with EPCs that were privately rented, each in the F or G band, and looked at whether there were cost-effective measures to bring the dwelling up to an E.

*NOTE: All examples are from real EPCs produced for the private rented sector, hence some photographs are not of good quality. They are included here to help illustrate the types of property affected.*

**Example 1**

- Current SAP rating 20 (band G)
- Cost of measures £40-£240
- SAP rating after measure 45 (band E)



This is a semi-detached ground floor flat, 1900s with solid brick walls and electric room heaters in the one habitable room. There is an uninsulated hot water cylinder providing hot water from an immersion. Cost-effective measures to raise the rating to an E would simply be to insulate the cylinder (£40) and change the meter to a dual meter. Changing to a dual meter can be free, depending on the supplier, or around £200. Changing the meter/tariff is not an EPC recommendation.

Changing the meter and adding a 160mm cylinder jacket would raise the SAP to 45.

**Example 2**

- Current SAP rating 25 (band F)
- Cost of measure ~ £300
- SAP rating after measure 45 (band E)



This is a 1900s mid-terrace top-floor flat with cavity walls and no heating system present (electric heaters assumed in RdSAP). There is 12mm of loft insulation present.

For this property just insulating the loft to 270mm would raise the SAP rating to 45 at a DIY cost of around £300.

**Example 3**

- Current SAP rating 36 (band F)
- Cost of measure free-£200
- SAP rating after measure 46 (band E)

This is a top-floor maisonette, 1960s with cavity walls and electric room heaters. There is a flat roof with unknown insulation.

Filling the cavity walls of this dwelling would bring the SAP up to a 46, however, as this is a maisonette, the whole

property would need to be insulated. This would need permission from the freeholder.

As with the first example, as this property has electric heating, changing the meter to dual to get some of the heating and hot water at a reduced rate will increase the SAP rating to 46 (band E).

**Example 4**

- Current SAP rating 32 (band F)
- Cost of measures ~ £700
- SAP rating after measure 41 (band E)



This property is a 1900s end-terrace with solid brick walls and an old roof room. It has 20% double glazing and an inefficient gas boiler. The heating controls are a programmer only.

As there is no access to the loft space and insulating a roof room would not be cost-effective (under the guidelines), we looked at draughtproofing, low-energy lights and upgrading the heating controls. With draughtproofing on all windows and doors, low energy lights in each fitting and installing a room thermostat and TRVs, the SAP rating would rise to 41. The cost of these measures would be around £100 for the draughtproofing and low energy lights, and £600 for the controls upgrade.

**Example 5**

- Current SAP rating 37 (band F)
- Cost of measures ~ £650
- SAP rating after measure 45 (band E)





This one is a mid-terrace house, built in the 1920s with cavity walls, no access to the loft and a roof room. The heating is from an old gas boiler, with only a programmer for the controls. There are no low-energy lights.

There are a few options for this house:

Measure	Cost	Resulting SAP	Notes
Cavity wall insulation	£500	39	
Party wall + LEL	£0 + £50	40	If the party wall construction can be identified as solid (as would be likely in a property like this), then the cost would be £0
Room thermostat and TRVs	£600	44	

The analysis shows that for many F and G properties, there are cost-effective ways to bring the rating up into the E band.

**Conclusion**

The article puts into context the size of the issues that will be created by raising the energy ratings for residential property. This doesn't mean the situation can be ignored, but it is manageable. The biggest challenge is likely to be that most of the properties affected are at the lower end of the price range, and therefore, the proposed measures affect those with the least amount of surplus cash to undertake the

required improvements. Though be aware that there will be some larger, more valuable properties that do fall into these energy efficiency bands.

As regards the consequences for surveyors and valuers, they must report the facts, and although these are relayed in the article, they do lead to a significant amount of interpretation for individual cases, so we are left with a high degree of opinion. The following is a summary of the key points from the article which need to be considered when producing reports:

- The 5% rule proves to be a bit of a red herring as there are few energy-saving measures that could, if correctly installed, impair the value of the property and measures that change the appearance of a dwelling.
- Many measures to raise the ratings are at minimal cost and given the levels of property value in most parts of the country, this won't impact in any way whatsoever.
- The payback provisions limit the type of measures that can be undertaken and if they cannot be installed then the property continues to have a poor energy performance, which should be reflected in the value, but see the next point;
- Older property at the lower end of the price range will usually be discounted to reflect the current condition and increased maintenance costs. There is a risk that this type of property may become a candidate for redevelopment as it is uneconomic to restore. They are unlikely to be available as a "Buy to Let" proposition, so consideration needs to be given as to their sustainability in mortgageability and value terms.
- Flats will continue to pose a problem as the article explains, there is a need to involve all the occupants in the building, even for sound economic works, and this may be a logistical issue. It takes time to organise management meetings and raise funds to do the work.



**Dr Lisa Blake**

Dr Lisa Blake joined the Sava team in 2006 and is currently Head of Technical, working with Sava Intelligent Energy and SAP/ RdSAP. Since working for Sava, she has worked in various technical roles supporting our customers and software development.



**Tim Kenny**

Tim is a residential surveyor and runs Tim Kenny Surveying Ltd. Alongside his day-to-day work, Tim is also responsible for the Residential Building Defect and Defect Database content on [isurv.com](http://isurv.com), and a trainer for the Sava Diploma in Residential Surveying and Valuation. More content from

Tim can be found on his [YouTube](#) channel or through [LinkedIn](#).

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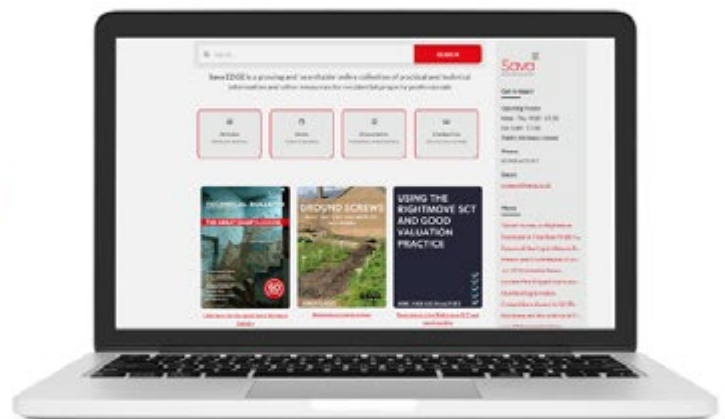
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MAKING BUILDINGS BETTER



cost effective. The performance ratings after improvements assume the improvements have been installed in the

to £500)	Typical savings per year	Perform Energy
	£411	
fixed outlets	£11	
Sub-total	£422	

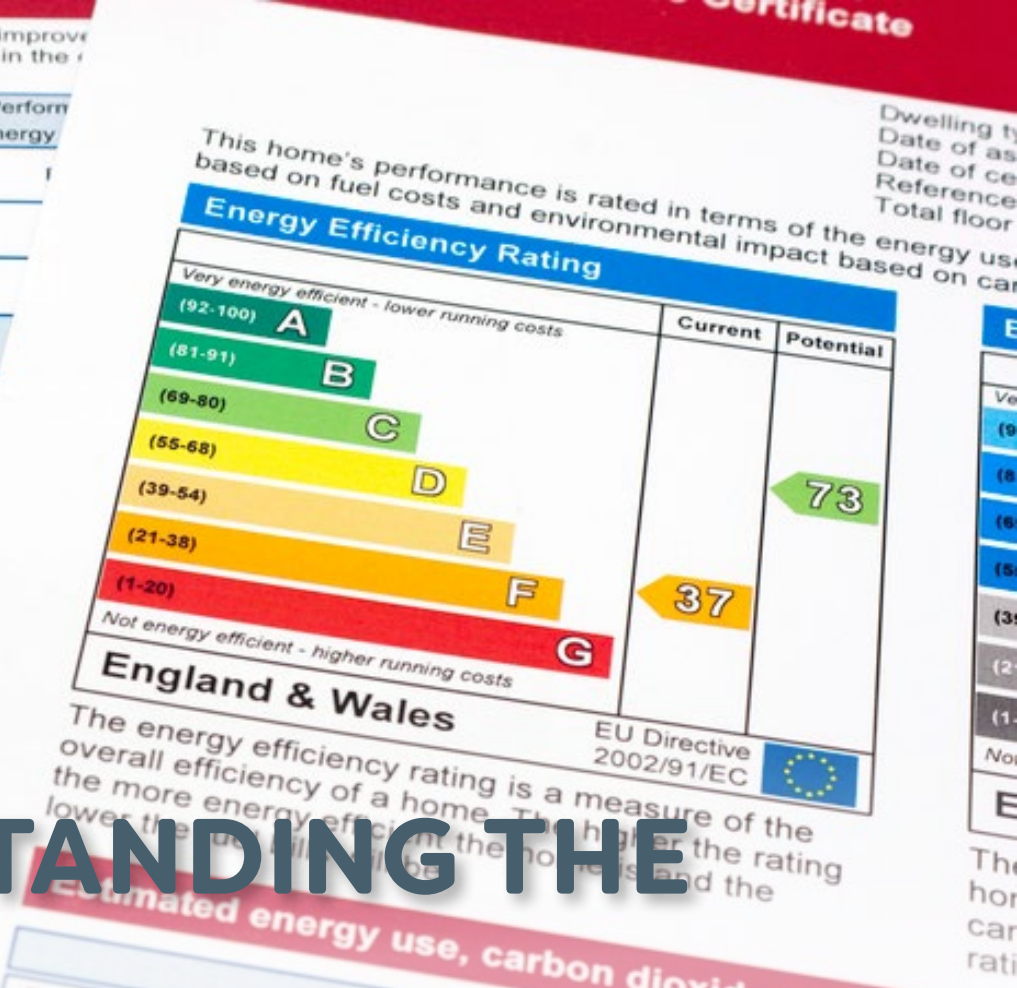
  

£500)	Typical savings per year	Perform Energy
	£102	
	£323	
Total	£847	

rating  
 impact (CO<sub>2</sub>) rating

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# UNDERSTANDING THE EPC

## FUEL PRICING AND OCCUPANCY MODELLING

JOHNNIE LEATHER, PUBLIC POLICY RESEARCHER, MA SOCIAL AND PUBLIC POLICY, SAVA

Energy Performance Certificates, or EPCs, were introduced for all properties in 2008. EPCs use a standard approach to reflect the energy performance of a dwelling which does not consider how specific occupants may use it. This is because their purpose is to enable buyers, renters, and other stakeholders to compare the energy efficiency of different dwellings, based solely on property performance.

Recently there has been a lot of criticism of EPCs in the media, and a lot of this criticism has been due to misunderstanding of the true purpose of the EPC, how the data is collated, and the attributes taken into account. This article aims to address some of these misunderstandings.

### Introduction

EPCs provide information on a property's energy use, provide typical energy costs, and make recommendations on energy-saving measures, theoretically providing the occupier information on ways they may be able to save energy and therefore money. An EPC is required every time a property is built, sold, or rented and is valid for 10 years.

EPCs contain a rating to represent a dwelling's energy performance, the energy rating ranges from 1 to 100+

and is banded from A (best) to G (worst). For example, a band C property, which serves as the target band for multiple government policies, has an energy rating between 69 and 80. The rating is calculated through the Standard Assessment Procedure (SAP) methodology for new-build properties and Reduced Data SAP (RdSAP) methodology for existing properties.

### SAP vs RdSAP

SAP methodology is used to calculate the energy performance of a new-build dwelling. The SAP



methodology requires information from the building designs and collected data from testing the property once built, this is to ensure design standards are met. Once an EPC has been issued using the SAP methodology, it will be valid for 10 years before it requires updating if the property is going to be sold, or rented out, this new EPC will then use RdSAP methodology.

RdSAP methodology calculates the energy performance of existing dwellings, and as the name suggests, requires less information to do so. This is useful for existing properties – especially much older ones – because there is less information available on the component parts of the building.

The current version of the SAP methodology is SAP 10.2, which was enshrined in Part L of the Building Regulations in June 2022. RdSAP uses SAP 2012, with RdSAP version 10 yet to be released, although it is expected to come later this year or early 2024.

### Explaining key sections of the EPC

The SAP rating is displayed under one of the first sections of the certificate, ‘Energy efficiency rating for this property’. The rating uses the estimated annual energy costs, divided by the floor area of the property in m<sup>2</sup>. By also accounting for the floor area in m<sup>2</sup>, it provides potential buyers and renters with a like-for-like comparison between the energy efficiency of properties, regardless of size. Alongside the SAP rating is a potential SAP rating, which could be achieved if the suggested recommendations, found in a subsequent section, are carried out.

## Energy efficiency rating for this property

This property’s current energy rating is E. It has the potential to be C.

[See how to improve this property’s energy performance.](#)

Score	Energy rating	Current	Potential
92+	A		
81-91	B		
69-80	C		73   C
55-68	D		
39-54	E	49   E	
21-38	F		
1-20	G		

Figure 1: The ‘Energy efficiency rating for this property’ section from an EPC

Following this is ‘Improve this property’s energy rating’. This is where the list of recommended measures can be found, along with details on indicative costs of installation, the potential annual bills savings, and the potential SAP rating post installation of each individual measure. It is worth noting that the costs and savings shown are indicative, there to provide a rough idea of how much measures could cost and the savings that could be made.

The indicative installation costs do not consider specific systems, brands, or the property’s characteristics, therefore the actual costs of making the improvements may differ quite significantly from the figures quoted. The EPC also makes no mention of the actual appropriateness of the measure recommended (a recommendation for PV panels will be included even if the property is in a conservation area, for example). The justification for this is that the EPC is valid for 10 years, so the appropriateness of a measure can change over time, regulations can change and technologies can improve.

## Estimated energy use and potential savings

Based on average energy costs when this EPC was created:

Estimated yearly energy cost for this property	£1225
Potential saving if you complete every step in order	£349

Figure 2: The ‘Improve this property’s energy rating’ section from an EPC

Additionally, the EPC provides an estimate of the annual energy bills for heating, lighting, and hot water. This can be found under ‘Estimated energy use and potential savings’. Again, it must be noted that the energy cost estimate is only an ‘indicative’ and not an ‘actual’ running cost. To calculate the estimated energy costs, the SAP methodology uses an occupancy model (number of people, heating pattern etc.). Consequently, it is very likely that the modelled costs will be different to the bills the occupants pay.

The purpose of a standard occupancy is to enable buyers and renters to compare the running costs of different properties, based on the dwelling’s performance rather than how occupants may use it. For this reason, white goods such as fridges, freezers, and washing machines are not accounted for in the SAP methodology or EPCs. As an increasing amount of energy usage in modern

homes comes from white goods, this is another factor that may cause estimated energy costs to vary from those experienced by occupants.

Below the estimated yearly energy cost is the potential annual energy bill savings. This figure represents how much could be saved on a household's energy costs, if all the measures recommended on the EPC were to be carried out in the stated order.

### Heating use in this property

Heating a property usually makes up the majority of energy costs.

#### Estimated energy used to heat this property

Type of heating	Estimated energy used
Space heating	21462 kWh per year
Water heating	2319 kWh per year

#### Potential energy savings by installing insulation

Type of insulation	Amount of energy saved
Loft insulation	4216 kWh per year
Cavity wall insulation	1737 kWh per year
Solid wall insulation	4426 kWh per year

Figure 3: The 'Estimated energy use and potential savings' section from an EPC

'Heating use in this property' is another important section which displays an estimate for a property's space and water heating demand, in kWh per year. These figures are irrespective of the property's heating and water systems and reflect the demand of the property using the SAP standard occupancy model. Following this section on some EPCs are figures detailing estimated energy savings offered by different types of insulation. This will only be found on an EPC if there is scope to improve the property's insulation.

Figure 4: The 'Heating use in this property' section from an EPC

### Modelling for space and water heating

The estimated energy demand for space and water heating found in the EPC does not reflect a specific household but a modelled 'average household'; because of this several occupancy assumptions are made. This is primarily based on the floor area, which is used to model the theoretical number of occupants in a property.

To calculate the space heating demand, the SAP methodology uses standardised heating hours. For RdSAP version 2012 this is 9 hours on weekdays and 16

hours on weekends. In SAP version 10, 9 hours is assumed for every day of the week. During heating hours, it is assumed that the temperature will be set to 21°C in the main living room and 18°C elsewhere. This information is combined with the modelled number of occupants, the floor area of the property, and the efficiency of its envelope, to provide an estimate for space heating demand.

The reason this figure represents demand and is independent of the heating systems, is to gauge the efficiency of the 'building shell'. This is necessary to provide an understanding of when improved insulation is required, therefore enabling the estimated insulation energy savings found on the EPC.

Heating systems are, however, considered when calculating the estimated energy costs. It should be noted that only the presence of the heating system and controls are recorded and used in the calculation, with the condition of the radiators, how often the boiler has been serviced, and indeed if it is working at all not accounted for. A badly maintained system with old radiators will not work as well as one that is well maintained with new radiators, but the SAP rating will not reflect that, it will use the published efficiency of the system.

The modelled number of occupants is also used when calculating the hot water demand. In SAP 10.2 the actual number of showers and baths present in the property is combined with the modelled number of occupants to generate the theoretical hot water demand. In RdSAP 2012 on the other hand, only the modelled number of occupants is used to estimate water heating demand.

### Fuel pricing

The estimated annual energy costs found on the EPC take their fuel prices from the Product Characteristic Database (PCDB), which is maintained and updated by BRE. The PCDB contains the unit costs and standing charges for the various different fuel types used in the UK. In addition to this, the PCDB holds the indicative costs for the EPC recommendations.

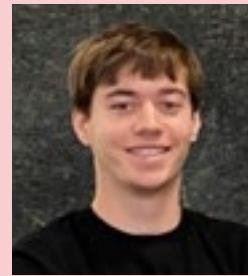
The unit costs of different fuel types found in the PCDB are calculated by taking a rolling average from the previous three years, with updated costs added every six months.

Due to the recent, unprecedented increase in fuel costs, the prices in the PCDB became far lower than reality. To account for this, in February BRE took the decision to update the fuel prices outside of the typical six-month timeframe.

In effect this means that EPCs generated during 2022, before this exceptional fuel cost adjustment, will include estimated energy costs particularly out of step with reality. But you should also remember that historically the fuel prices used have changed every six months, so all EPCs would have different energy costs, even with no other material changes, depending on when the EPC is lodged.

**Concluding thoughts**

When dealing with EPCs, their rating, and the data they provide, it is important to remember the methodology behind the generation of the EPC, and to interpret the data for what it is, a modelled assessment of a dwelling’s performance, not a prediction of a specific household’s energy usage.



**Johnnie Leather is a Public Policy Researcher.**

Johnnie has an MA in Social and Public Policy and carries out research on energy policy and sustainability in the built environment.

This is a two-bedroom end-terrace with a total floor area of 89 m<sup>2</sup>. Therefore, the assumed number of occupants by the SAP methodology is approximately 2 (actually it is 2.3). In fact, there is only 1 occupant, meaning the estimated energy costs on the EPC is likely to be higher than the actual bills paid.



Figure 5: The floorplan for an 89m<sup>2</sup> property with a SAP modelled occupancy of 2.3



# From ex-armed forces to residential surveyor and business director

## Lee Dowdall AssocRICS

Sava graduate and now Residential Surveyor and Director of Dowdall Surveying



### What was your background before pursuing a career in surveying?

I was in the Armed Forces, more specifically the Corps of Royal Engineers, from Jan '08 until Feb '21.

### What made you consider a career in residential surveying?

I needed a change in direction and have always been interested in property. I saw an advert for the Sava Level 6 Diploma in Residential Surveying and Valuation, checked Sava out on YouTube and, after watching a few of the videos, I knew surveying was for me.

### What drew you to the Sava Diploma in Residential Surveying and Valuation?

I had a house and a family, and I couldn't afford a drop in pay. It was great to be able to complete the course alongside my career in the Army.

### How did you find managing work and your qualification?

I was extremely fortunate to have obtained a posting to a training regiment in the Army where I am unable to deploy on large-scale exercises and operations during that time. My previous line manager was very pro-self-development and was very accommodating.

It was tough, as my role there was very demanding, but I was very motivated to complete the course so managed to find the right balance.

### Would you recommend the Sava diploma to others looking to pursue a new career in surveying?

I would definitely recommend it and have already done so to a number of people who have since embarked on the course. I thought it was fantastic.

### What has been the highlight of your journey?

The best moment was being offered my first job. I felt like I had achieved something so incredible. My proudest moment was being told I was a finalist for the RICS Young Surveyor of the Year Award 2022. Since then, I've embarked on an entirely new and exciting journey, setting up my own surveying business.

### What motivated you to set up your own independent surveying firm?

I felt like I needed more. I enjoyed most of my time employed, but felt so unfulfilled. I wanted to have time to learn and develop, as I genuinely want to be the best surveyor I can be. I knew that going independent would allow me to make a decent living whilst expanding my knowledge.

I also have a family, including a new baby, and I wanted to have the freedom to have a day off when needed. I recently volunteered to go on the eldest's Year 2 school trip to Bolsover Castle, and it was great not having to ask permission. I now divide my time between working, learning, spending time with experienced professionals to increase my knowledge, and, most importantly, family events.

### Who inspires you to be the best you can be?

I don't think there's any greater honour than to have ordinary hard-working people relying on you for your professional advice before they make the largest purchase they might ever make. I've always felt like everything is

stacked against the buyer and it's only the surveyor who has their best interests in mind. Nothing is more rewarding than receiving thanks from a client.

### How did you find the process of setting up your own business?

It was actually quite a challenge but definitely worth it. I'm fortunate to have good friends who own their own successful companies who gave me some great advice, another family friend taught me a little about branding, and another close friend helped with my website. There is so much to think about and many choices to make. It was a lot of hard work, but now I'm reaping the rewards.

### What's your advice to anyone looking to start their own practice?

You only need confidence and determination. Everything else you can figure out on the way. Lean on your friends, family and broader network, particularly those that have been through it before.

### Is there anything else you'd like to share with the next generation of Sava learners?

Looking back, I could have set up my own company on the day I graduated, and I would have been okay and made a lot of money, but by seeking employment first I've learned so much about surveying, defects, myself, and my clients, enabling me to set my company up in a way that reflects me, my values, and my goals.

My advice when looking for employment is to choose wisely. Speak to as many people as you can and consider focusing on a company with good values and a structured training programme over those promising the best salaries and bonus schemes.

Scan me to become a residential surveyor





