

The Lords Built Environment Committee
House of Lords
London
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Date: 29 December 2023

My Lords and Ladies

As the year draws to a close and, with it, the latter stages of your evidence gathering for the “Modern Methods of Construction – What Has Gone Wrong?” inquiry, I wanted to take the opportunity to feed in some final thoughts which I hope will be helpful as you pull together your report. In particular, there were a few points which emerged from witnesses following my appearance that I thought would be useful to comment on.

I said in my evidence that there is zero chance that the UK will build 300k homes a year without a thriving Volumetric sector, and I believe that there is reasonable consensus that no other form of construction is capable of providing anywhere near the same level of additional capacity. When it is further considered that Volumetric construction will cut carbon dramatically, improve quality and reduce build costs, the argument to support this nascent sector is, in my view, compelling.

Unit costs for Volumetric

I wanted to address the point on costs specifically and provide some additional information which I hope will explain some of the potentially conflicting evidence you have heard on this issue.

You were told by Ms Gilmartin from Platform that Volumetric construction can be “30-50% more expensive” than traditional construction. TopHat has never been asked to quote on a Platform project, but I am very clear that we are competitive with traditional building *contractors*, certainly in the Midlands and further South, and have multiple examples to substantiate this claim. It can sometimes be the case in the North of England and Scotland that traditional contractors may offer a lower price on the face of it, but then Volumetric construction is quicker and higher quality, which both bring substantial financial benefits that can tend to be overlooked when comparing “contract prices”.

Comparing the prices charged by Volumetric manufacturers and traditional building *contractors* is an apples-to-apples comparison because both have to make a profit margin on top of their costs. Quite often, though, Volumetric *prices* are compared to the *costs* of house-builders, which build on land they own and make a margin on the overall development. These “apples-to-pears” comparisons are fundamentally flawed as they are not comparing *cost* with *cost*.

You were rightly quizzical about how it could be that Volumetric homes could be “30-50% more expensive” in a world where hiring brickies and other trades is so challenging and costly. The response to this from Ms Gilmartin was that the manufacturers are having to invest at high levels and hence unit costs have not yet come down. While, as above, **I completely reject the premise that Volumetric is more expensive**, Ms Gilmartin is correct that unit costs will come down over time, and I will come on to provide some explanation as to how this will happen. Before doing so, though, I must challenge any link between current pricing and recouping the initial investment. Of course, any investor will need to make a return over time, but any investor that expects to do this through overcharging customers will always be disappointed. The reason that TopHat’s shareholders have invested approaching £200m is that they believe in the critical role that

Volumetric will play in the UK housing market. Our shareholders include a very large private equity investor, an institutional FTSE100 investor and one of the largest house-builders in the UK, alongside significant personal investments from the management team. They are not so naïve as to expect a quick return on their investment, but do believe that they will show a healthy return in the long run if the Government acts to provide the catalysts to kick-start the sector.

The amount of institutional investment we have seen in the Volumetric sector in the last few years has been truly unprecedented. Regrettably, a number of these businesses have failed, as has been covered in many of the sessions. A worldwide pandemic, followed by supply chain chaos and an ongoing planning crisis, followed by a war in Ukraine sparking extreme levels of inflation, followed by a severe downturn in the housing market, alongside a lack of purposeful support from Government, have all taken their toll. If the remaining players are also allowed to falter, I predict it will be a very, very long time (decades?) before institutions with serious intent and ambition will re-enter the market. This is why I believe that the conclusions to be reached by your Inquiry are so important.

Unit costs will come down over time

To come back to this critical point, my firmly held belief is that Volumetric construction will be significantly lower cost than traditional construction as it reaches scale. It is vital that your Committee fully understands that this is not an empty belief and is, rather, based on solid foundations. Indeed, I hope that you will find the *future* potential to save cost deeply reassuring (and exciting) in the context of Volumetric *presently* being price-competitive with traditional contractors.

Broadly speaking, scale will have the following three impacts, each of which will very materially reduce Volumetric costs over time:

- **Purchasing power** - Volumetric volumes are currently TINY compared to traditional and so we are currently not offered the discounts that traditional construction can achieve. Worse than that even, many suppliers currently require upfront payment due to the perceived fragility of the sector.
- **Supply chain alignment** – this will impact in three ways:
 - The housebuilding supply chain is geared towards small drops to thousands of different sites. This is enormously expensive and environmentally damaging. Volumetric requires suppliers to drop in huge quantities at centralised locations. However, at the moment, suppliers don't factor these efficiencies into their commercial terms (partly because the volumes are low and partly because it is new). There are plentiful examples of supply chain centralisation leading to significant cost savings through the value chain which ultimately lead to lower prices for the end-purchaser – consider retailers or car manufacturers for instance.
 - The specification of building materials is currently driven by the need to manually handle product on-site. This builds in unnecessary cost for a Volumetric manufacturer. For example, plasterboard sheets are sized for two men to lift manually. This necessitates the need to join multiple adjacent sheets through a laborious process called “taping and jointing” and/or plaster skimming the entire wall. In a factory, we have lifting equipment that means we would prefer to use plasterboard in much larger sheets which would reduce or eliminate the need to join adjacent sheets, reducing costs and improving the finish. Larger sheets would also be cheaper for the manufacturer to produce. There are many such examples. Pre-assembly of components would also improve the efficiency of Volumetric construction (akin to tier

one suppliers in auto-manufacturing) but is largely not required by traditional construction. With scale, Volumetric manufacturers will be able to command the attention of material manufacturers to work collaboratively to reduce cost through product specification and pre-assembly.

- Site works are a third area of challenge for Volumetric construction. Currently, we are charged about the same to connect a couple pipes by a plumber that they charge a traditional house-builder to plumb an entire home! Same for electricians! This real-world experience, which is very difficult to rationalise, was eloquently highlighted by the CIO of Homes England in his evidence. With scale comes familiarity and on-site pricing will become more realistic.
- **Continuous improvement** - this can sound less tangible than the first two areas of impact, but every manufacturer will tell the same tale about the importance of continually improving their process and level of automation. Speaking for TopHat, we have so many ideas about how we could go further than our second factory (which itself reduces labour cost per square foot from £25 to £10). As an absolute minimum continuous improvement should at least offset wage inflation over time. Any investment in automation should drive further savings.

“Chicken and Egg”

If you are convinced about the future potential of Volumetric construction, as I am, then the only relevant question remaining was posed very pertinently by Lord Carrington of Fulham during the Minister’s evidence session: how do we solve the “chicken and egg” challenge? The house-building market in the UK does not change fast, evidenced by the fact that it is still building houses in much the same way that they were built many decades, if not centuries, ago. In this environment, change needs to be pushed through more forcefully than the commercial sector can achieve alone. We need Government help.

I said in my evidence session that I was realistic enough not to ask for subsidies (I wish we were a car manufacturer or battery manufacturer!), despite the fact that any such subsidy would be a rounding error of the support provided to the demand side such as “Help to Buy”. I was concerned and confused by the Minister’s suggestion that subsidies could not last forever, precisely because there are none. The AHP is the only subsidy that touches Volumetric construction, but exactly the same subsidy is available for traditionally constructed affordable homes. It is a subsidy for *affordable homes* (required because the supply of new homes has been so tight for so many years driving up the cost of homes beyond the level that they are affordable); it is not a subsidy for Volumetric homes.

The support that I requested to address the “chicken and egg” problem would be zero (or very low) cost, as follows:

- Ring-fence at least 10% of the Affordable Homes Programme **annually** for Volumetric homes to underpin sustained demand. This is a zero-cost action.
- Cut stamp duty for the greenest homes creating an incentive to buy Volumetric homes (which are typically far more environmentally friendly than traditionally built homes) and helping to drive sustained demand. This would be very low cost as only 0.2% of homes are EPC A. Alternatively, the incentive could be re-distributed across other non-EPC A homes to make the policy zero-cost.
- In his speech on housing this week, the Secretary of State indicated a presumption in favour of planning for sustainable homes – depending on the detail of this proposal it could be an important way to support the sector.

- Stand behind the Volumetric sector by providing guarantees negating the adverse working capital implications that have resulted from the crisis of confidence following recent failures (suppliers requiring up-front payment and customers requiring fully cash-backed performance bonds). Subject to usual commercial risk, this should be a zero-cost action.

This inquiry and its subsequent report could not be more timely and important. The opportunity for the sector to tackle the housing crisis and play its part in cutting carbon is huge and I believe that TopHat and the rest of the sector have a bright future – but we need your help to get through the current challenges and accelerate into growth for the benefit of all involved.

Please do let me know if there is anything else I can provide information on, or if a visit to our factory or any of our developments would be helpful as you write your report.

Yours sincerely

A handwritten signature in black ink, consisting of a large, stylized 'C' followed by a horizontal line.

Carl Leaver
Chairman

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