

Written evidence submitted to the Environmental Audit Committee inquiry into Environmental sustainability and housing growth (ESH0020)

Item Type	Other
Authors	Stride, Mark;Renukappa, Suresh;Suresh, Subashini
Citation	Stride, M., Renukappa, S. and Suresh, S. (2025) Written evidence submitted to the Environmental Audit Committee inquiry into Environmental sustainability and housing growth (ESH0020). UK Parliament.
Publisher	UK Parliament
Download date	2026-06-10 00:04:53
License	https://www.parliament.uk/site-information/copyright-parliament/open-parliament-licence/
Link to Item	http://hdl.handle.net/2436/625821

**Written evidence submitted by: Mark Stride, Suresh Renukappa and
Subashini Suresh**

**Does the construction sector have digital skills to use Brownfield
land appropriately?**

Mr Mark Stride, Dr Suresh Renukappa and Professor Subashini Suresh

Faculty of Science and Engineering

University of Wolverhampton

United Kingdom

Executive summary

It is evident via multiple Government and Industry reports that the UK must build new homes to overcome housing shortage. However, where does the land come from? This written evidence discusses the positives of building on brownfield land and more importantly the digital skills and technology shortages that surrounds this subject area that must be overcome.

Brief introduction and reasons for submitting evidence

The Labour Government has promised to build at least 1.5m houses within the next 5 years. For this, land needs to be identified to construct on. Industry professionals claim that brownfield land should be used to building many cases. This is due to the fact brownfield land can be more sustainable, economical, and environmentally friendly option than building on greenfield land. Whilst Kier Starmer stated 'It's a future with more beautiful cities. More prosperous towns. New parks, new green spaces, new public services – all aligned with our plan.' This is somewhat flawed when the industry requires an extra 251,500 employees to join the sector by 2028 which is a very difficult obstacle for the UK construction industry to overcome.

Written Evidence

There is a substantial housing shortage throughout the UK and the construction industry cannot keep up with the demand. The Campaign to Protect Rural England (2022) state that

there is over 27,000 hectares of brownfield land throughout the UK, enough to build 1.2 million homes. Brownfield sites can play a pivotal role in the future development of our cities, but the delivery of such schemes come with several challenges. Such as complex and expensive remediation and infrastructure requirements, requiring high capital outlay; unusual ownership structures resulting in demanding site assembly requirements; difficult access constraints and rights of light constraints in densely developed areas. Parliament state that there are several factors preventing more house building which include; insufficient funding, increased costs, right to buy restrictions, the planning system and cost and availability to this. In addition to this, there are significant labour and technology shortages that prevent the industry progressing and maximising its potential.

Analysis identified that the construction sector is lagging behind many other industries who are more digitally advanced, striving towards Industry 5.0 where the construction sector is struggling towards Industry 4.0, suffering from skills shortages and not able to build key construction projects within programme or budget.

Regardless of whether the construction industry builds on green belt or brownfield land the CITB revealed that the sector requires an extra 251,500 employees to join the sector by 2028 due to people not wanting to join the sector and approximately 48,000 over-50s leave the industry each year. In conjunction with this the UK Parliament Post (2021) and Minor *et al.*, (2024) highlights that around a fifth of the UK population do not have essential digital skills for life and an estimated 52% of the UK population lacks digital skills. The construction industry must improve talent management using digitalisation within the sector to help improve quality, sustainability, productivity and profitability. Digital skills and new technologies are essential to ensure that brownfield sites are affordable to build housing on. However, to decrease skills shortages the sector must encourage new talent to join the sector and reduce digital poverty by improving digital skills and investment in new technologies. This will help minimise cost inflation, reduce programme, meet sustainability strategies, improve sector competition and enhance the development of urban strategies. During a recent study it is evident that the construction industry relies on Tier 1 contractors in the private industry to push technology ahead whilst the public sector lags behind due to a lack of investment and poor decision making. The use of brownfield land will need to be pushed by the public sector, however an appropriate infrastructure will need to be in place

to do this, enabling appropriate technologies and software such as Robotic, Internet of Things (IoT), Big Data, Building Information Modelling (BIM), Artificial Intelligence (AI) and Virtual Reality (VR) are used efficiently.

Conclusion

It is evident that to help overcome the national housing shortage, there is substantial brownfield land available to build new homes on to help meet Government targets. However, in conjunction with this, there is substantial evidence that there are significant digital skills and technology shortages throughout the construction industry that need to be overcome to help meet house building targets. The following 7 recommendations are set out to help provide methods to overcome the digital skills shortage and help reduce the housing shortage.

Recommendations

1. The sector must find a method to help individuals who do not want to upskill, reach their maximum potential within their careers and pass on their knowledge and experience to other construction workers.
2. The public sector must meet the technological demands of digital investment to ensure it is moving at the same pace as the tier one construction contractors.
3. The sector must work with Information Technology (IT) leaders to understand where digital improvements can be made to ensure the sector is maximising efficiencies, by allowing IT leaders to develop new software for the built environment.
4. The sector must target young workers to join the construction industry who will help to improve digital strategies throughout the sector.
5. Businesses must develop and maintain skills matrixes to understand where the skills gaps are within their organisations and teams.
6. The construction industry must review and improve frameworks to enhance talent management strategies to help attract and retain employees.
7. Talent investment strategies must be implemented to ensure that the construction industry and individual organisations help develop employees' digital skills.

December 2024