

THE EFFECT OF LOW CARBON COMMUNITIES ON CREATING A SUSTAINABLE CITY



Discussion

The research results obtained have not given surprising data. Firstly, for starters similarly to the literature review, the motivation for going green is too low in this current climate. Therefore, the overall view is that the UK is not on track to meet the net zero carbon goal by 2050. This, through the research obtained has identified a few reasons. For example, a big reason is due to the lack of education in the area. Too many individuals in the construction industry know little to nothing about or regarding sustainability and what it does the benefits it can have. It is therefore key that this is one of the main things that need to be explored. This could be through toolbox talks on site or tutors coming to office workspaces that aids the knowledge on this subject.

Another thing that is clear from the research undertaken is that the technologies with regards to sustainable methods can be developed massively through development of different technologies the main one being BIM (Building information modelling). There is not enough know regarding BIM and there has not been enough companies adopt BIM methodology in working toward a level 3. The development of these technologies could automate the processes and aid in avoiding mistakes, which in turn could help in streamlining the process and therefore creating profits as a result.

Lastly, the other big thing that has been identified is that the governments and councils need to do more in support of this if the UK hopes to reach its targets. This could be done in the forms of legislation or in the forms of taxes which create profits for projects that follow the sustainable materials/methods. This could then force companies into adopting these methods, which would in turn increase awareness and education, and with the right tax incentives it could help to increase the profits.

Ways of improving sustainable practices to incentivise more sustainable communities

- Reduce site wastage and over engineering projects.
- Make these more cost effective and use cheaper methods/materials
- Provide incentives for the governments and the council
- Increase education and awareness for sustainability as a whole
- Development of new technologies and fuel sources
- Transparency on supply chains and manufacturing methods.
- Local materials with off-site construction

With regards to improving the sustainable methods used there are a variety of responses. With main answers being to reduce the costs and making the sustainable methods a more viable option. This could be through government incentives but also by using new technologies or offsite construction, which is both cheaper and more sustainable. Finally, the increase of education has been discussed here which in turn could aid in all of the above as with increased education on sustainability more ways to reduce cost and technologies can be developed further.



Introduction

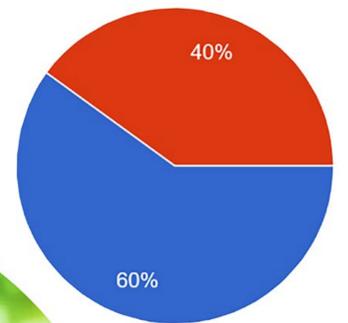
With the rapid expansion of the population and globalisation, the construction industry is busier than ever. This expansion however comes at a cost by feeding into pollution and climate change. A substantial amount of pollution and carbon being released into the atmosphere, in fact 39% of the total CO2 emissions in the world are produced by the construction industry (WGBC, 2019). Hence, with the ever-rising need for construction. The question remains, what can be done to reduce this figure? The British Government's net zero carbon emissions law set to be in full force by 2050, means that the country is already moving toward a cleaner environment (GOV, 2019).

Can Sustainable practices be used more in the construction industry?

The question on the right pertains to the major point at hand with regards sustainability. Is it even worth it? Evidentially from the above all responses are in agreement that sustainable methods and materials need to be used more. With the majority strongly agreeing to this point. This is a favorable response as there would be no need to improve this if sustainable methods/materials are not needed or wanted.

It is clear that from the results here that sustainable materials and methods do need to be used more. But there is obviously something which is holding the industry back from using these more or even exclusively using these methods.

Further questions are needed to ascertain the reasoning behind why the methods/ materials are not being used more.



25 responses

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly Disagree

Conclusion

In conclusion, it is evident that more research needs to be undertaken into the field of sustainability. There is quite clearly not enough known at least in the UK regarding the subject and more could be done to educate the rest of the UK. The results obtained from the questionnaire back up this statement. Technology and BIM is a giant step forward in aiding this. However, there is still more that can be done.

The main reason sustainability in materials and methods are not used as widely is due to their great cost. With developments such as Kirkstall forge, it is very much possible to integrate this into a low carbon community. However, currently there is no reason for companies to choose sustainability. Simply the cost outweighs the other factors and something perhaps via the government can be done to provide incentive schemes or induct taxes on the unsustainable practices.

Furthermore, with regards to the site Located in CITU's phase 3 multi-generational development. The site is orientated in such a way that the residential, care home, school and nursery and café are all located next to each other. This allows for a synergy between communities such as the residential and care home being interconnected this can create an environment where the two communities are supporting each other. Secondly the site has been constructed using sustainable materials and methods. Such as a ground source heat pump, a SUDS (Sustainable Urban Drainage System) permeable drainage system, and bicycle storage underneath the residential units. Then in the materials build up, external cladding is made from natural materials such as limestone for the ground floor and a charred timber cladding for anything above. The structure is made from a mixture of SIPS (Structurally Insulated Panels) and glulam beams.

