

Supplementary written evidence from Louisa Bowles

Question

How can you assess blue/ green infrastructure options within a masterplan situation? Eg if you were assessing a whole housing estate?

Agree with Joe Jacks point that embodied carbon measuring is relatively simple – the quantity of material multiplied by the carbon emissions of that material. However, we have to acknowledge that in the case of the public realm and infrastructure there is a lack of data from manufacturers including UK supplied pavings, soft landscaping, water management systems, sub-base build ups for different loadings, utility infrastructure, different planting options like tree pits compared to planters. To improve the ability to compare the carbon intensity of different blue/ green infrastructure initiatives against each other, we would need to close this data gap through incentivisation or investment in EPD production.

We also need to acknowledge that blue/ green infrastructure on buildings increases embodied carbon in the majority of cases, especially on roofs where it increases the depth of build up required and the structural loadings. So if targets are to be set but policy is encouraging these installations for other benefits, the approach to carbon emission reduction and the expansion of blue/ green infrastructure need to be aligned, not in conflict.

Finally, MMC lends itself to the built environment at scale. However, we need to make sure MMC providers are also invested in producing EPDs and in establishing carbon reduction measures. A lot of MMC currently relies on steel sub-frames, which can be high carbon if not procured from low energy production plants or incorporates a high degree of recycled material. MMC can result in the duplication of sub-structure to allow for transport and installation. In regards pre-cast concrete providers they have been slow to adapt their products to material efficiency and low carbon mixes. There is a belief in the industry that MMC represents carbon savings due to the minimisation of waste but we also need to make sure manufacturers utilise all other mechanisms to reduce as well and are incentivised to report their data.

If we were approaching the comparison of embodied carbon for different blue/ green infrastructure options for a masterplan in our office, the process might look something like this:

- I would probably assess the buildings separately from the ground works. We know what is 'good' and 'best' for a building but don't currently have benchmarks for public realm, infrastructure and ground works.
- We would capture as much area and volume data about the external realm as possible and then produce a series of analyses comparing different % allocation of types of blue and agree infrastructure
- I would assume that options with greater blue/ green infrastructure would report higher carbon emissions both upfront and in total than those without or with minimal provision. This does not mean that we should not pursue these options as they offer other benefits but in terms of policy creation and weightings against decision making local authorities and planning bodies need to communicate the priorities in their boroughs very clearly to design teams and client bodies.

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