

## 4.6 Responsible sourcing of building materials and embodied carbon

- 4.6.1 The construction industry is the single largest user of materials in the UK. 420 million tonnes of materials are consumed in construction annually. In addition to this, about 10% of national energy consumption is used in the production and transport of construction products and materials.
- 4.6.2 There are a wide range of environmental impacts associated with material production, use and waste. These include:
- Climate change as a result of greenhouse gas emissions;
  - Acid deposition;
  - Ozone depletion;
  - Air pollution (including smog);
  - Low-level ozone creation;
  - Water eutrophication;
  - Habitat loss and deforestation;
  - Fossil fuel depletion;
  - Minerals extraction;
  - Water wastage.
- 4.6.3 Certification schemes exist to increase both public and industry confidence that risks are being minimised or avoided and their use ensures that specifiers are able to demonstrate the responsible nature of their selection decisions. Areas for consideration include:
- The use of legally harvested and traded timber and the use of recognised certification schemes for other construction materials, with reference to the BRE's Green Guide;
  - Development of sustainable procurement plans to guide developer teams towards the specification of responsibly sourced materials;
- 4.6.4 An emerging area for consideration in selecting construction materials is the embodied carbon locked within those materials. Embodied carbon refers to carbon dioxide emitted during the manufacture, transport and construction of building materials, together with end of life emissions. Consideration of embodied carbon is likely to become increasingly important as we transition to a low and indeed zero carbon society.
- 4.6.5 The UK Green Building Council<sup>60</sup> has highlighted that there remains a significant, and still largely untapped, opportunity to address the embodied carbon of a building or project, alongside its operational efficiency, of a building. The greatest opportunity for impact on embodied carbon comes at the design stage, in particular in the building structure. If opportunities are not taken at this early stage, the embodied carbon savings are lost for the entire lifetime of the building.
- 4.6.6 The Councils will be supportive of measures to consider the embodied carbon of materials used within the built environment, including the specification of building materials with lower embodied energy. We would recommend early engagement as part

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<sup>60</sup> <https://www.ukgbc.org/sites/default/files/Tackling%20embodied%20carbon%20in%20buildings.pdf>

of the pre-application process for schemes looking to utilise materials with low embodied carbon.

### Further guidance

4.6.7 For further guidance on the responsible sourcing of materials and embodied carbon, please see:

- Green book live. Available online at: <http://www.greenbooklive.com/>
- RICS professional standards and guidance, UK. Whole life carbon assessment for the built environment, 1st edition, November, 2017. Available online at: <https://www.rics.org/globalassets/rics-website/media/news/whole-life-carbon-assessment-for-the--built-environment-november-2017.pdf>
- WRAP Embodied Carbon Database: <http://ecdb.wrap.org.uk/Default.aspx>