

assumptions regarding energy mixes, growth, demographics, urbanisation and built space utilisation but this list will have to be further developed by the bidder.

National and industry sector roadmaps will inform this task but business as usual should consider expected change and not necessarily visions set out, if these are considered to be at a level of ambition beyond general expectation. It is possible for this task to set out two business as usual trajectories per region, one plausible and one ambitious. Links between operational and embodied carbon shall be considered.

The result of this task shall give a clear understanding of the typical levels of embodied carbon along the factors set out above. Figures of stronger certainty, with more detail, shall be provided for up to 2030, but the following 20 years shall also be reasonably depicted. The results shall for all regions present figures on the micro (building level) as well as the macro level (national level) and set the latter in the context of the overall national carbon emissions and climate objectives.

#### **Task 4. Set the trajectory towards climate objectives and identify reduction solutions**

Having assessed trajectories of expected embodied carbon levels, this task will take the objectives of climate neutrality for 2050 and 55% net emissions reduction for 2030, and back cast where we would have to be at different moments in time from now on and up to 2050, to reasonably be able to succeed. The work should take into account existing trajectories underlying EU climate and energy policies.

The discrepancy between this backcast and the business as usual trajectories for the different regions shall be described. It shall be set in context of the overall climate objectives and compared with other carbon reduction solutions elsewhere in the economy to give a sense of the magnitude and impact potential.

The task will go on, supported by the visualisation of contributions to embodied carbon as set out in task 2, to identify embodied carbon reduction solutions or strategies. A broad approach shall be taken, also considering aspects such as the use intensity of buildings and innovative ways of providing services. Existing national and sectoral roadmaps (or others) will have a key role in informing this part of the study. It is not the task of this contract to set out policy suggestions but to point to different categories of reduction solutions and to indicate the magnitude of the improvement potential at different points in time up to 2050. These magnitudes shall be made quantitative up to at least 2035/2040. In this exercise, the different regions as set out earlier shall be considered, potentially also different building types. The reduction solutions shall be classified based on their likely time of broad implementation (low hanging fruit, exiting solutions with good replication potential, innovation, expected future development).

Careful consideration of the links between operational and embodied carbon shall be given and these shall be described and quantified where relevant. The overall goal is to identify solutions reducing whole life carbon.

The result of this task will on the one hand set out the growing gap between where we are heading without major changes and the expected path needed to meet our climate objectives, and on the other hand give a good overview of existing and future reduction solutions, with their reduction potential.