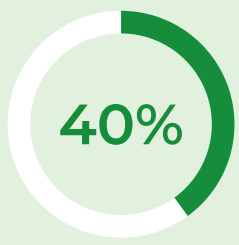
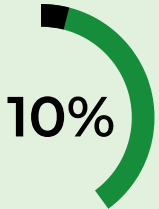


Embodied Energy in Construction Material

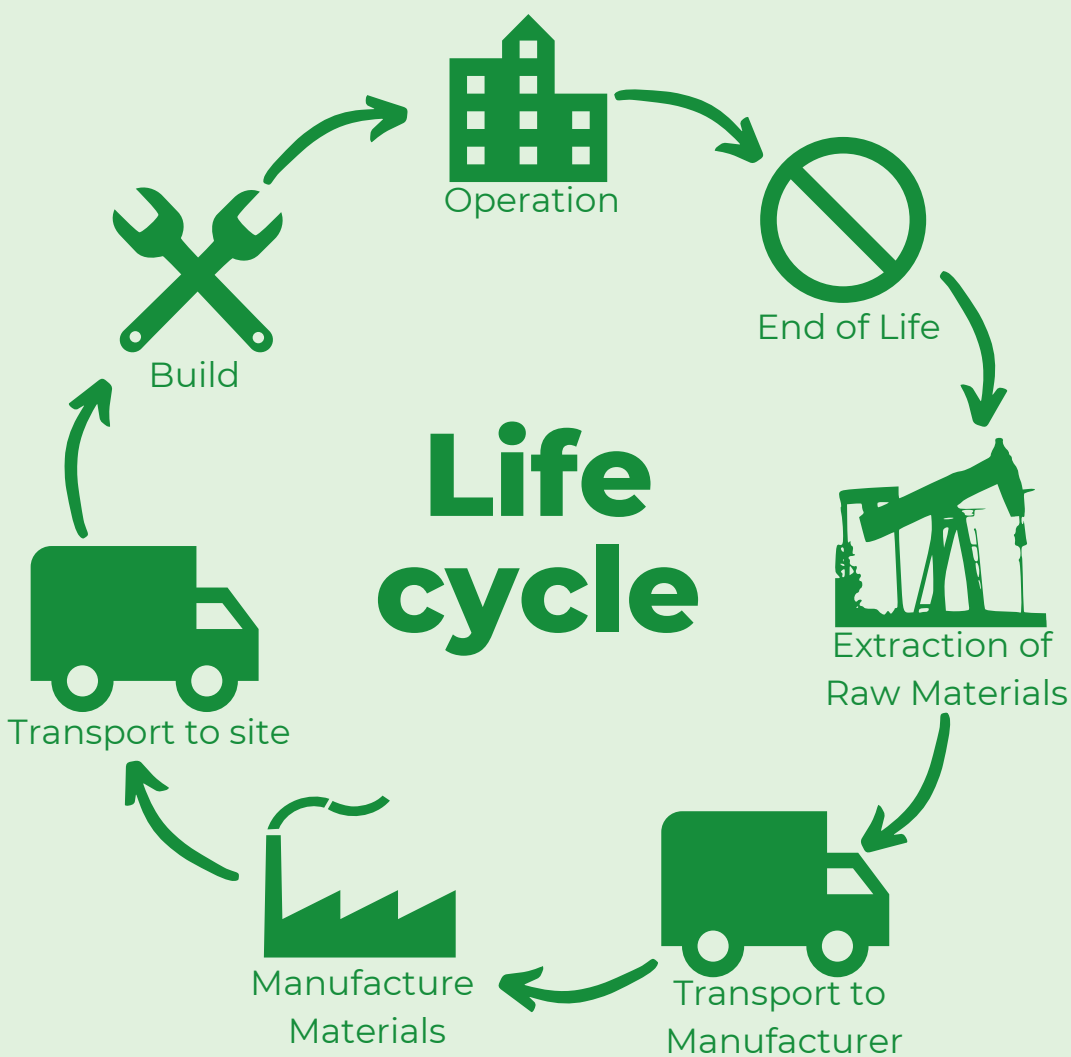


The impact of embodied energy in buildings is larger than one may think. Globally, the building and construction sector accounts for almost 40% of all carbon dioxide emissions.



Of those, more than 10% are coming from embodied carbon emissions associated with the entire life cycle of materials and construction processes, from extraction to demolition.

Embodied Energy is the amount of total energy attributed to a given material during its life cycle. It includes extraction, processing, transportation, manufacturing, construction, maintenance and disposal.



Consider the statistic above, in the context of a report from the [Global Alliance for Buildings and Construction](https://www.worldgbc.org/news-media/WorldGBC-embodied-carbon-report-published). They predict that the building sector growth rate over the next 40 years is expected to produce more than 736 billion square feet of new construction - adding the equivalent of the city of Paris to the planet each week!

Embodied energy must be considered over the serviceable life of a building. In some instances, a higher embodied energy building material or system may be justified when it reduces the operating energy requirements of the building. For example, a durable material with a long serviceable life, such as aluminum, may be an appropriate material selection despite its high embodied energy.

As the energy efficiency of a building increases, reducing its energy consumption, the embodied energy of the building materials also becomes increasingly important.

For more information, visit:

- <https://www.worldgbc.org/news-media/WorldGBC-embodied-carbon-report-published>
- <https://globalabc.org/news/launched-2020-global-status-report-buildings-and-construction>
- https://www.worldgbc.org/sites/default/files/UNEP%20188_GABC_en%20%28web%29.pdf
- <https://edgebuildings.com/embodied-energy/>

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