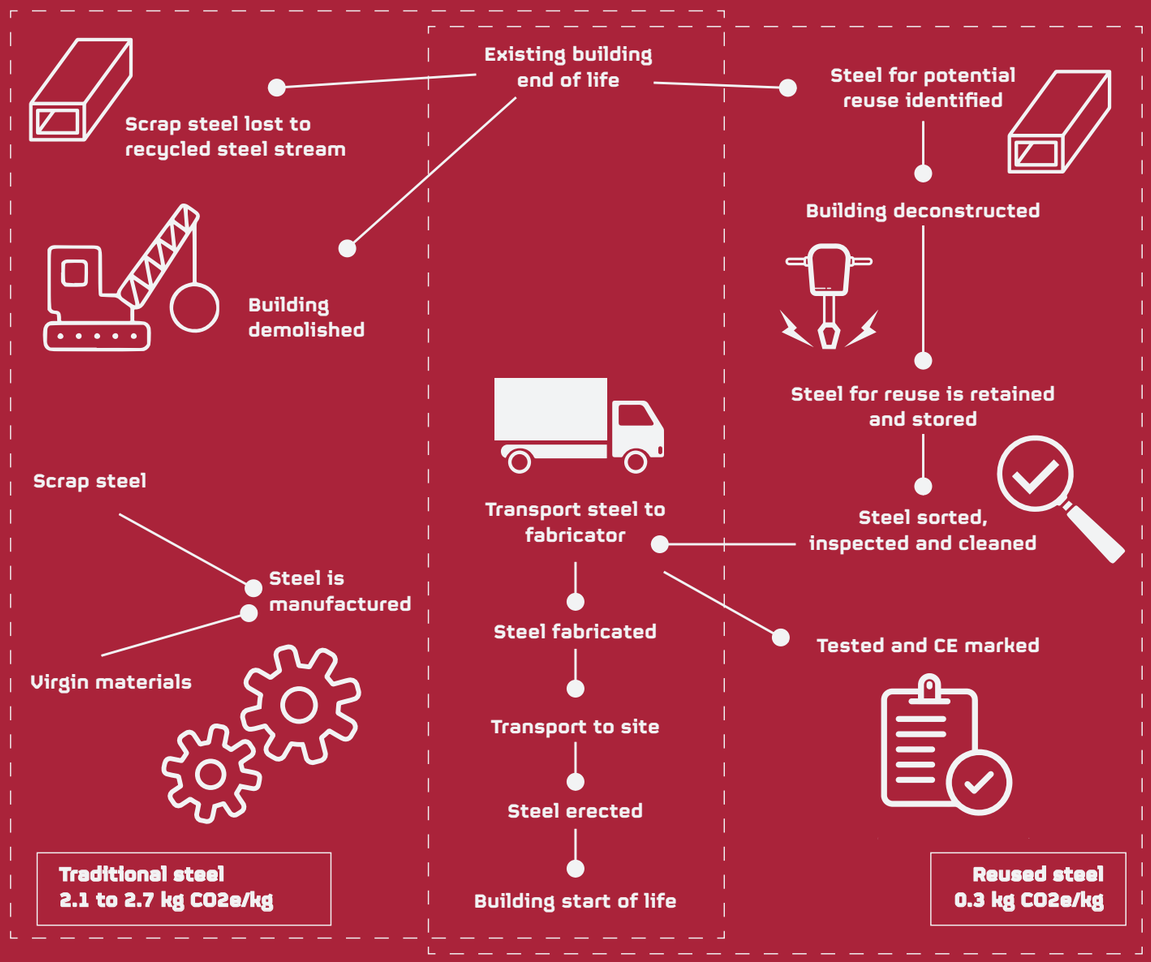
Reuse of steel

Reusing steel involves taking beams or columns from a deconstructed building and reusing them on a new structure or site. Rather than recycling which requires a huge amount of energy to melt and reshape the steel into new elements. By reusing steel the upfront embodied carbon is cut by a factor of eight on average, even accounting for the extra energy for demolition and transportation.



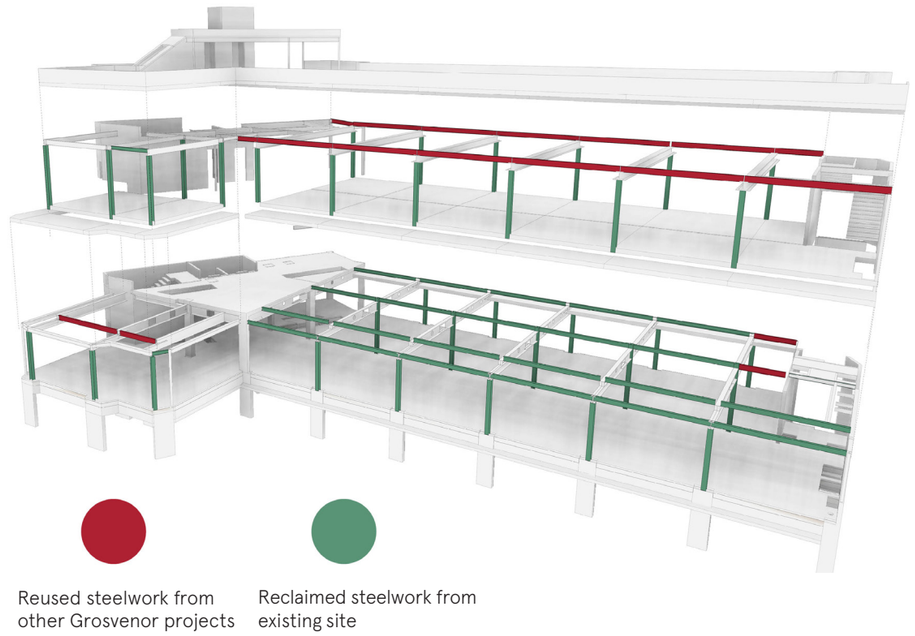
Case Study

Grosvenor: prioritising sustainability

Grosvenor is one of the first real estate companies to commit to achieving net zero carbon across their directly managed portfolio by 2030. We are working with them to develop designs to maximise structural steel reuse across their portfolio of projects.

At 7 Holbein Place, the proposed steel and CLT extensions will incorporate existing steelwork found onsite as well as steel sections taken from demolition sites across the Grosvenor portfolio.

Steel sections reused in this way have around 1/8 the embodied carbon of traditionally-sourced steel. The project successfully demonstrates how circular economy principles can be applied to projects in practice, and if scaled up could make a significant improvement on embodied carbon for steel frame construction.



Total Area
3536m2

Overall Embodied Carbon
214 tCO_2e

Embodied Carbon Saved by Reusing Steel
16 tCO_2e

Overal Embodied Carbon/m²
62 $kgCO_2e/m^2$

Embodied Carbon Storied in Timber/m²
45 $kgCO_2e/m^2$

HEYNE TILLETT STEEL