example

- Steel S235:
  - Cross-section area = 100kN / 235 N/mm^2 = 425 mm^2
  - Volume = 425 mm^2 x 1000 mm = 425’000 mm^3
  - Weight = 425’000 mm^3 x 7’850 kg/m^3 = 3.3 kg
  - GWP = 3.3 kg x 0.6 kg_{CO2eq}/kg = **2 kg_{CO2eq}**

- Solid timber C24
  - Cross-section area = 100kN / 8.5 N/mm^2 = 11’765 mm^2
  - Volume = 11’765 mm^2 x 1000 mm = 11’765’000 mm^3
  - Weight = 11’765’000 mm^3 x 500 kg/m^3 = 5.9 kg
  - GWP = 5.9 kg x 0.47 kg_{CO2eq}/kg = **2.8 kg_{CO2eq}**