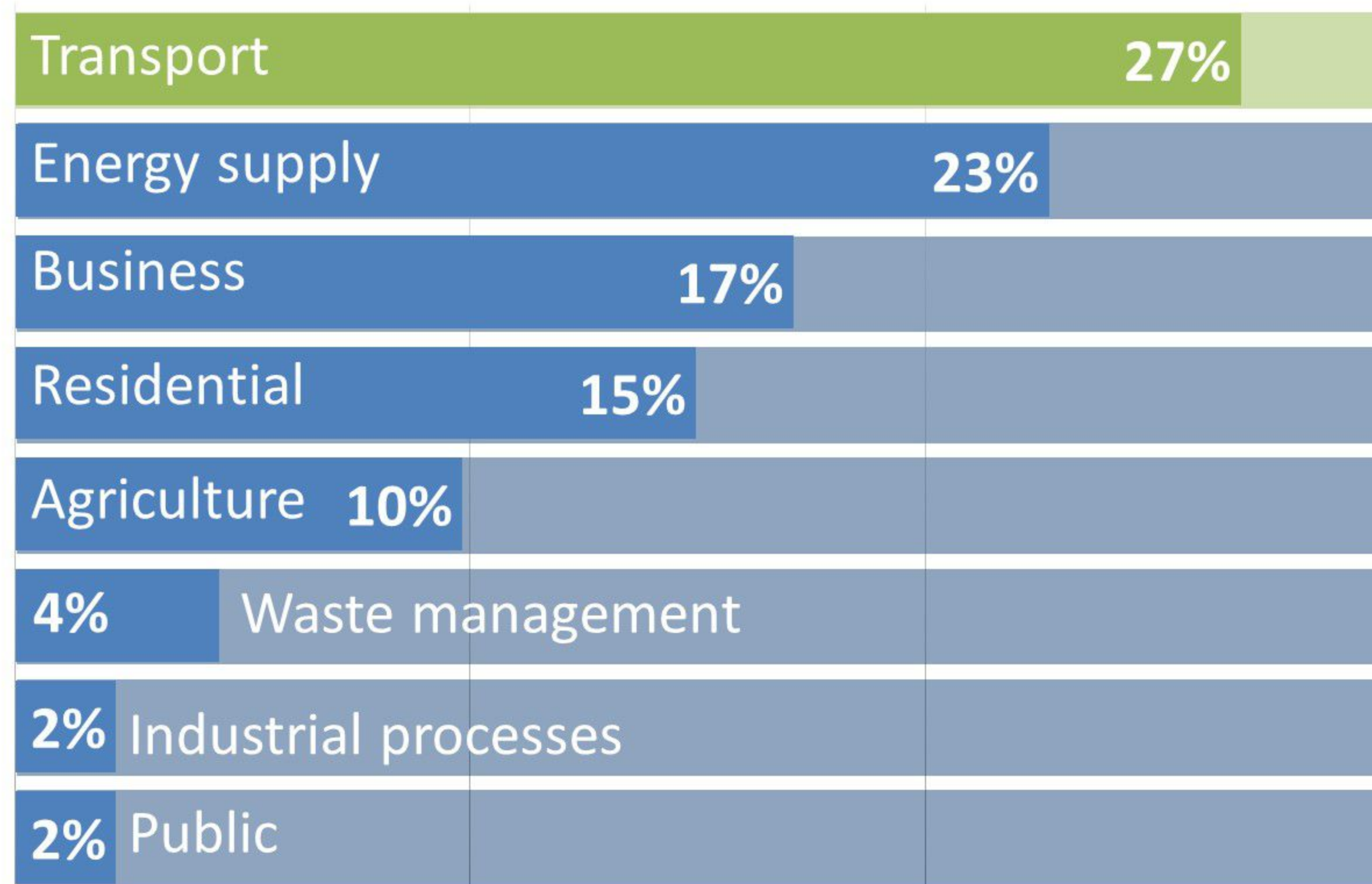




MOTIVATION – THE QUEST FOR ZERO CARBON FUEL

As the world moves towards zero carbon a solution must be found for the transport sector.

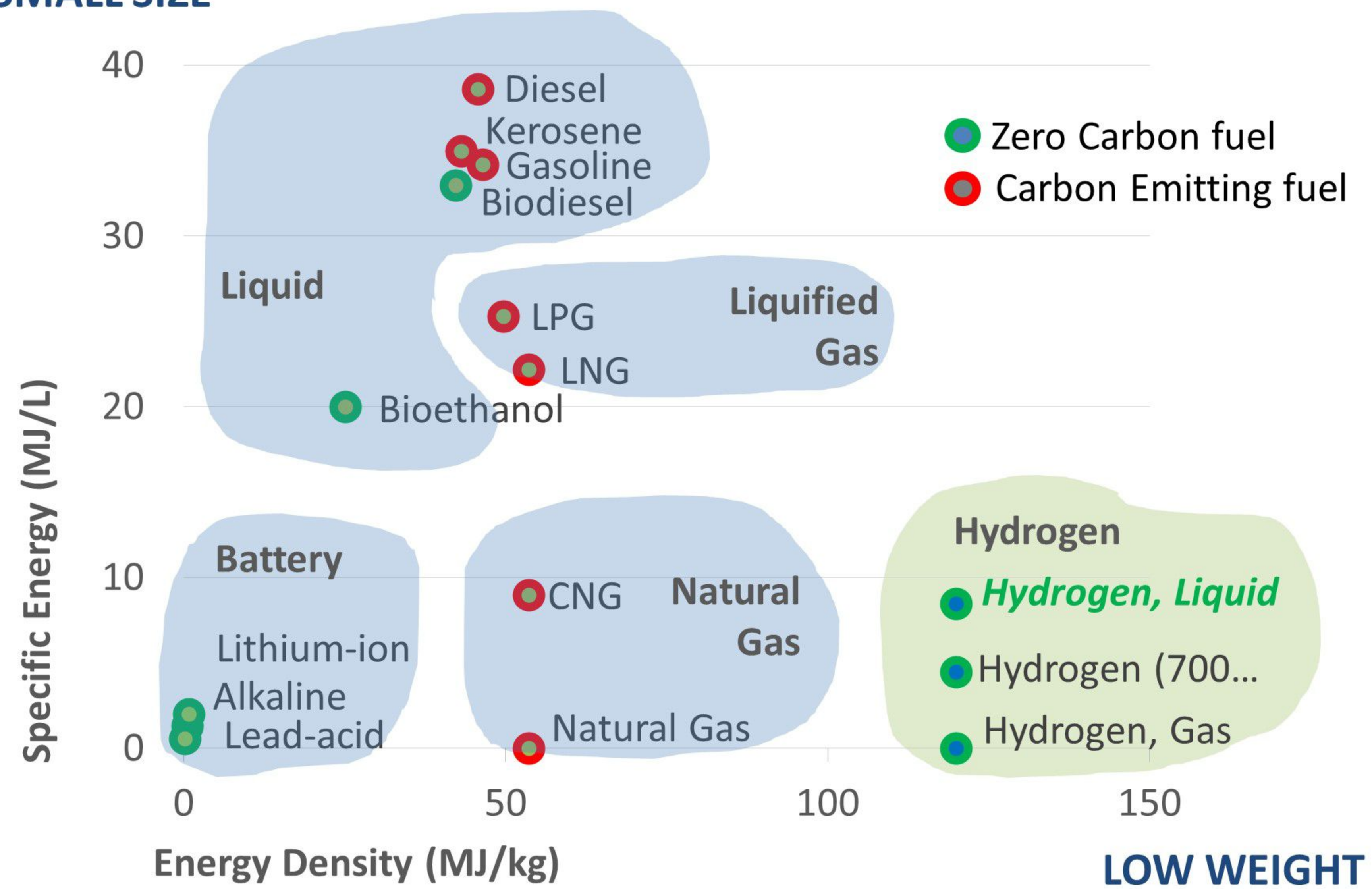
UK CO₂ Emissions by Sector 2018



Hydrogen is a strong candidate zero carbon fuel for the transport sector due to a high energy density for a given mass.

Relative volume and mass of fuel

SMALL SIZE

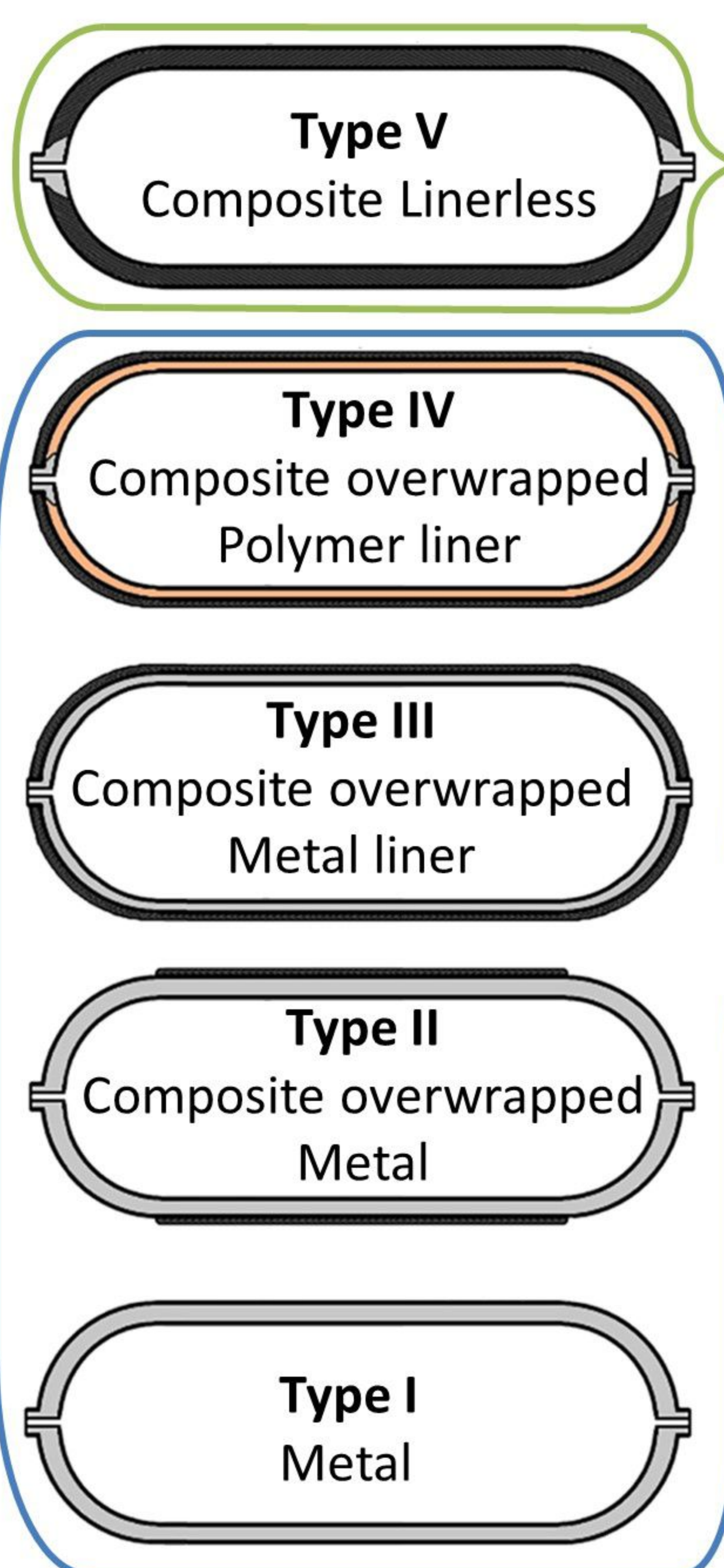


CHALLENGE – LIGHTWEIGHT HYDROGEN STORAGE VESSELS

Hydrogen is usually stored as a cryogenic liquid at -250°C or a high pressure gas at 700 bar. Pressure vessels are a key enabler for hydrogen storage.

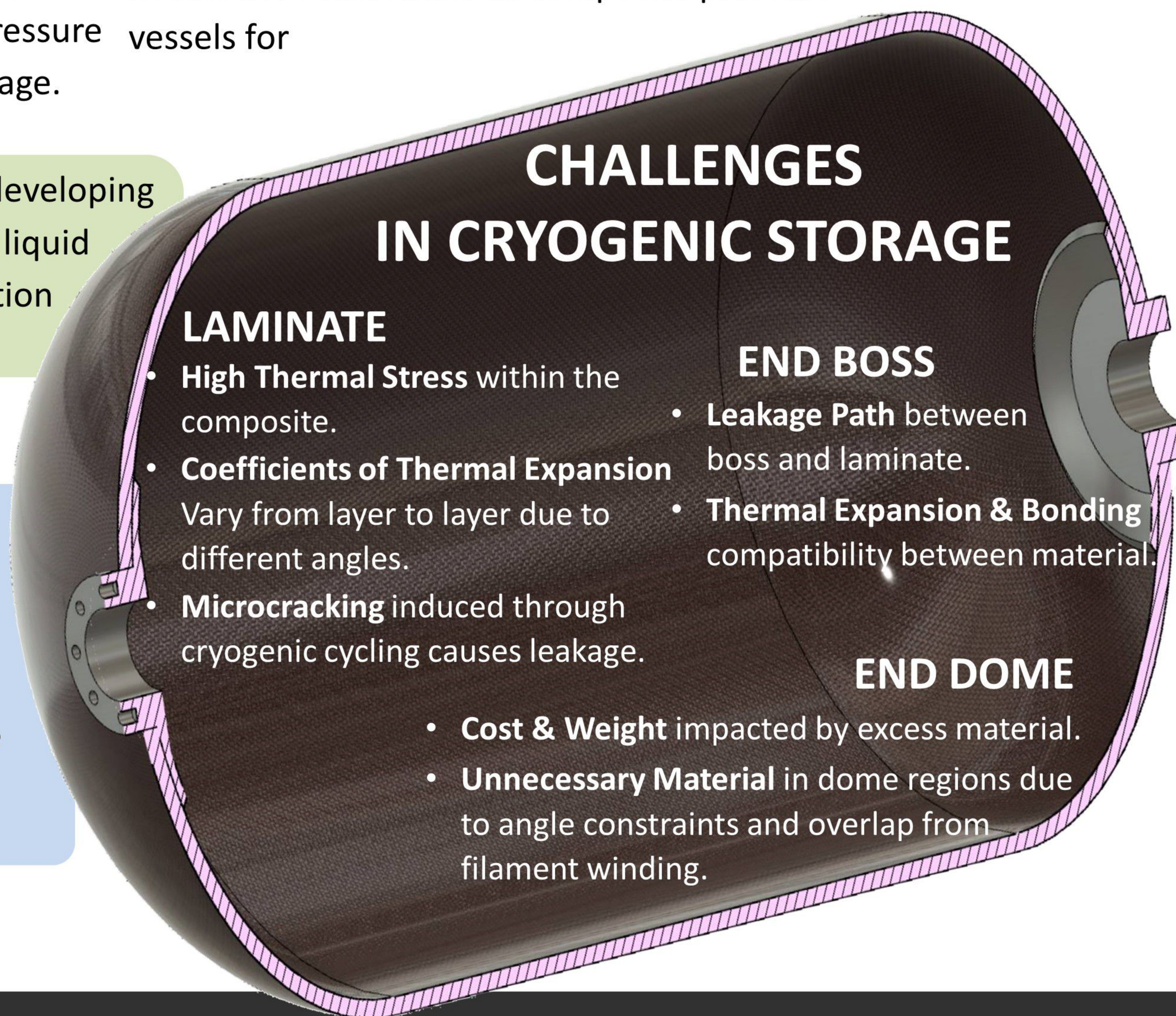
Research Focus: Linerless composite pressure vessels for

Types of pressure vessels



- Low maturity developing technology for liquid storage in aviation and space.

- Mature mass-produced technology.
- Type IV used for gas storage in hydrogen fuel cell cars.



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