

# Low carbon products for the building industry

AiGroup National Sustainability Forum

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# CSR house of brands – residential

## Performance Systems



## Bricks & Roofing



## Lightweight Systems



# CSR house of brands - commercial

**Viridian**  
New World Glass

**FRICKER**  
CEILING SYSTEMS

**cemintel**  
fibre cement systems

**rokcore**  
panels

**alutri**  
panels

**Hebel**  
for future living

**Bradford**  
for smarter environments

**GYPROCK**  
Everything else is just plasterboard

**MiTEx**  
ADVANCED CEILING SYSTEMS

**CSR**

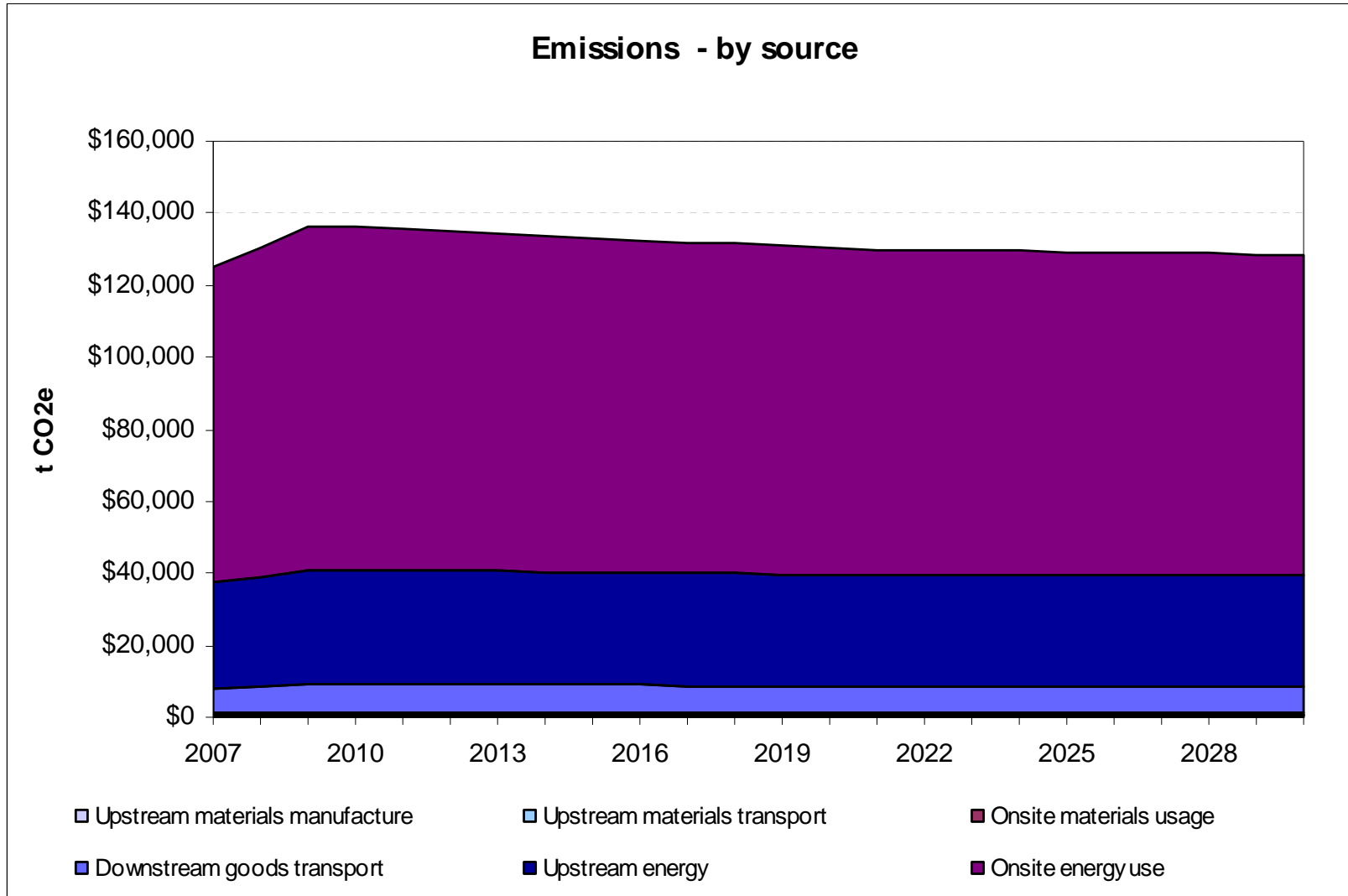


## Carbon modelling important driver of change

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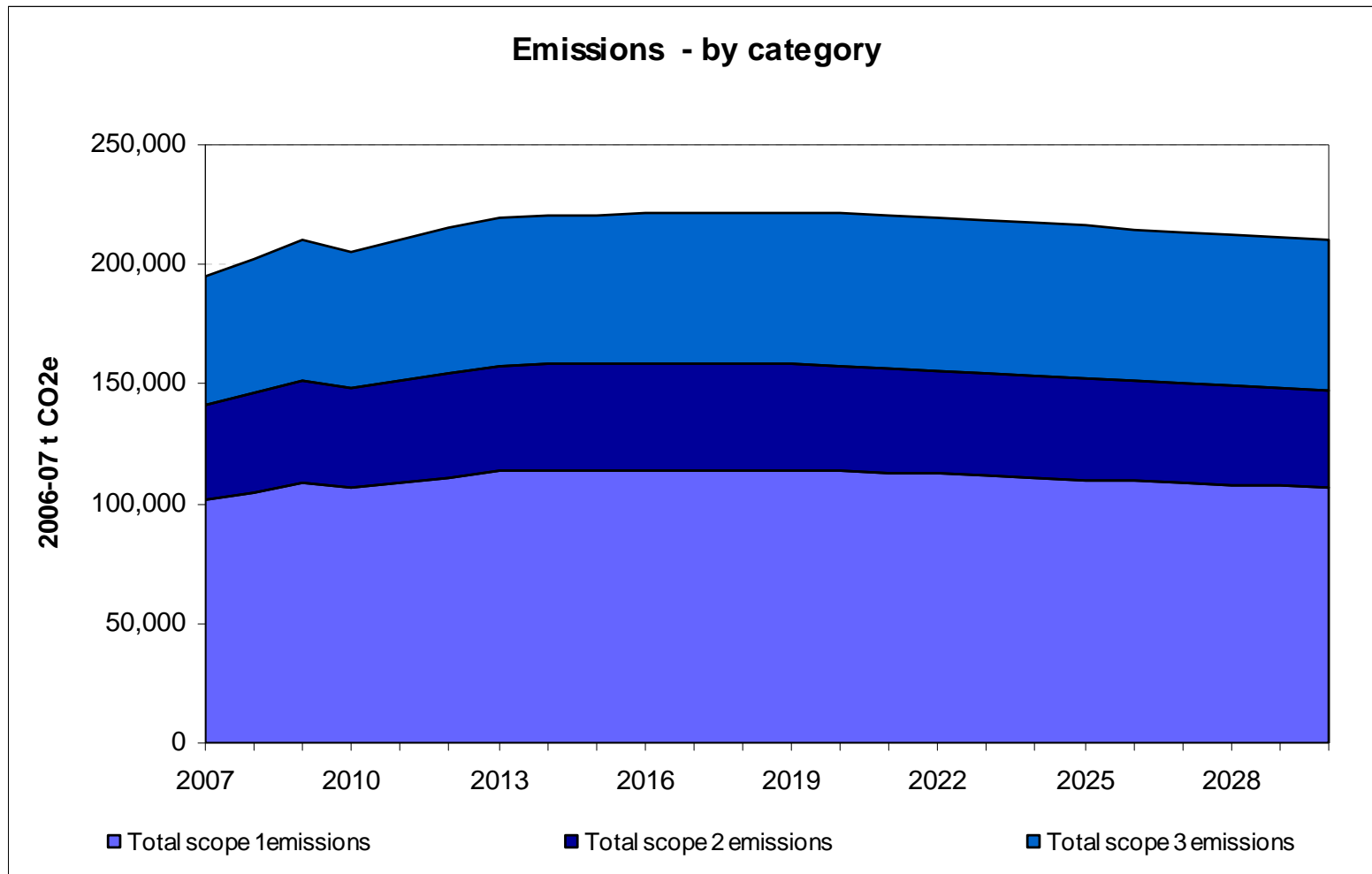
- Modelled all major manufacturing sites using Business Certainty and Access Economics
- Comprehensive projections of business under 4 differing carbon pricing scenarios
  - ⇒ Full P/L, balance sheet projections
  - ⇒ Modelled emissions by category (i.e. scope 1,2 ,3) over time
  - ⇒ Sorted emissions by input e.g. transport, raw materials etc
  - ⇒ Examined product demand elasticity and market drivers

# Model output

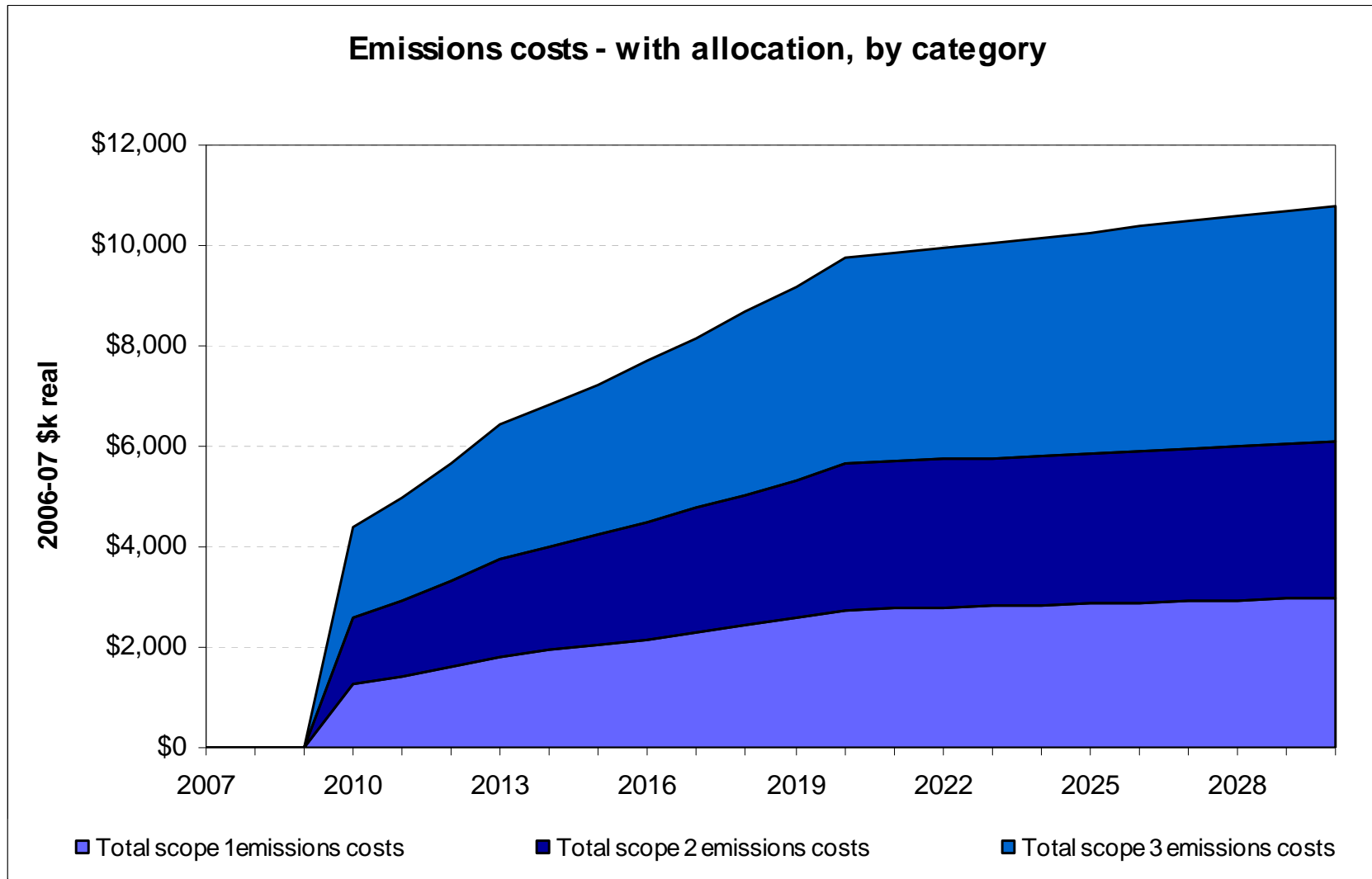


# Model Output

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# Model Output



## Considerations arising from carbon modelling

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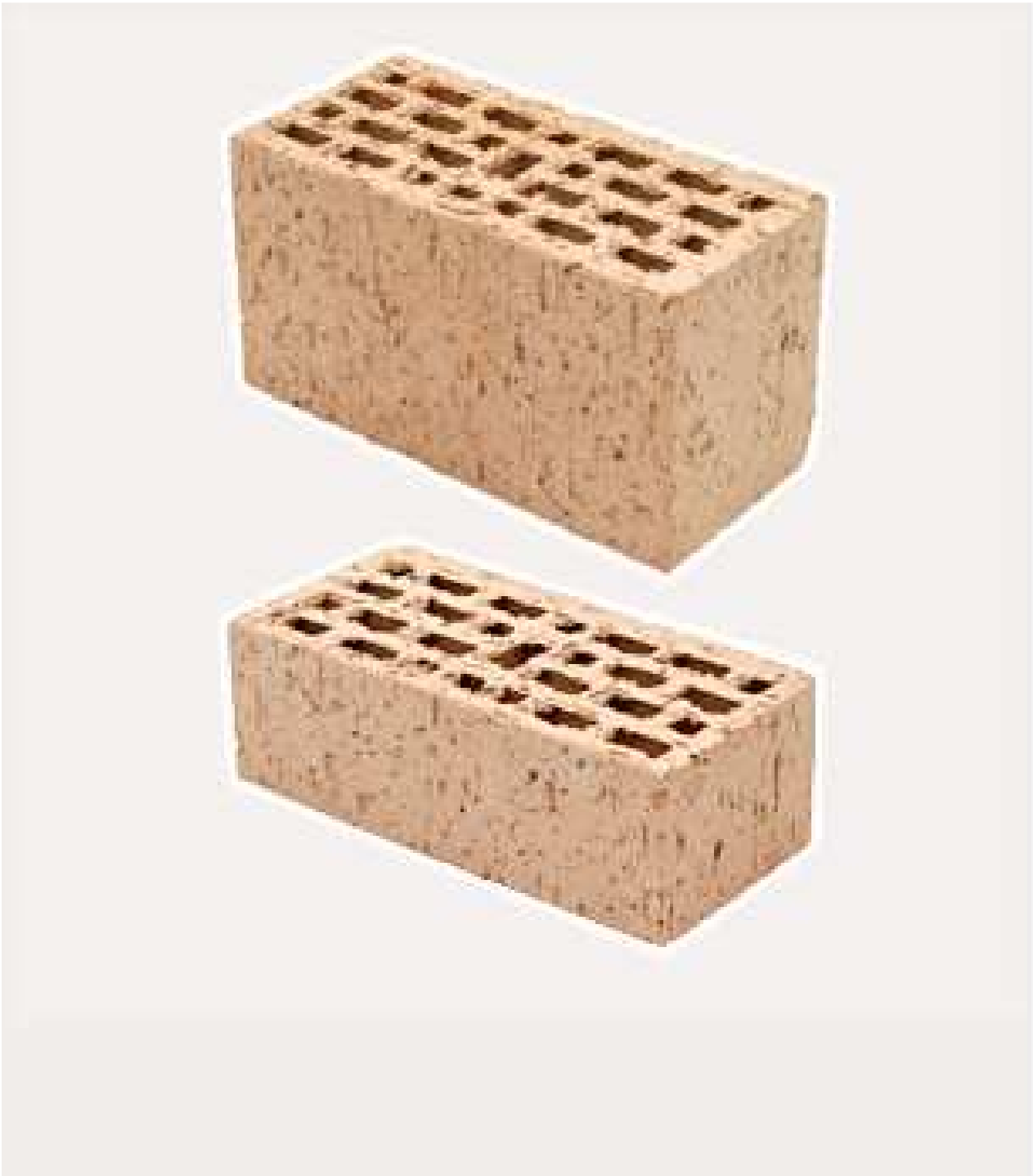
- Glass high carbon intensity and heavily trade exposed
- Glass wool based insulation did not meet EITE criteria
- Gyprock and Cemintel sheeting low carbon intensity and favour shift to light weight construction
- Perverse outcome for plasterboard and recycled paper
- Perverse result for bricks



## Carbon content alone not adequate criteria

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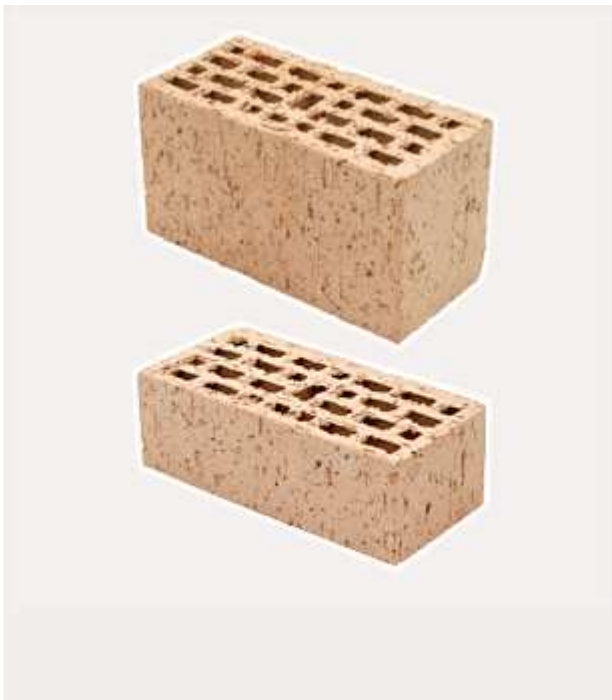
- Life Cycle analysis of products is more revealing
- Through the Building Products Innovation Council, LCA data can be fed into a building designer for more sustainable outcomes
- In service use and thermal mass considerations also have a bearing on materials selection (Think Brick Australia)
- See [beyondwindows.com.au](http://beyondwindows.com.au)



# Impact for PGH bricks – New Light Weight Commons

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❖ 40% void vs 28% for a standard brick



- ❖ Suitable for rendered walls in load bearing applications
- ❖ Up to 20% lighter
- ❖ Less raw material, less energy, less carbon emissions
- ❖ Up to 5% less mortar
- ❖ Expect improved insulation properties
- ❖ OH & S benefits
- ❖ Over 30% increased fire rating
- ❖ Potential for more payload

## Conclusion

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- Carbon content is not the only criteria for materials selection in the built environment
- Our early conclusions based on emissions lead to some surprising results once the business groups considered
  - Life Cycle Analysis
  - Impact of product life
  - Impact in service use
  - Consumer wants and needs