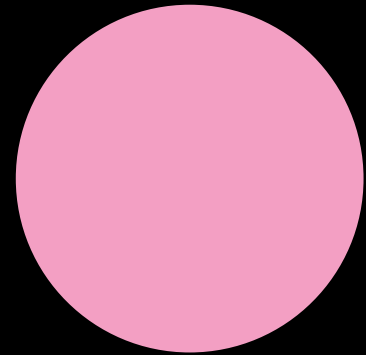
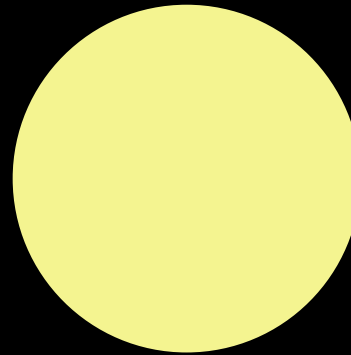
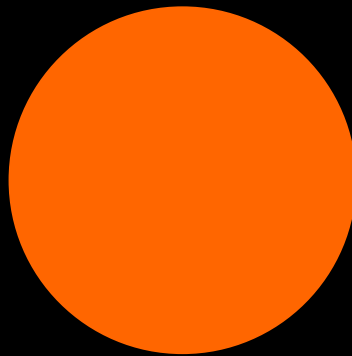
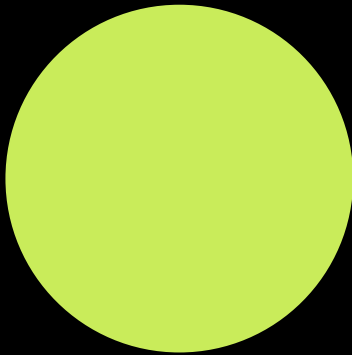


An aerial photograph of a large, irregularly shaped ice floe floating in dark water. On the surface of the ice, a map of Argentina is drawn in orange-brown lines. The map includes the country's outline, major rivers, and a sun emblem in the upper left corner. The ice floe is surrounded by smaller ice fragments and dark water.

# Presentation to IREC Workshop Barcelona

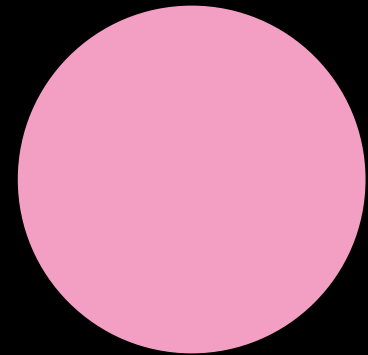
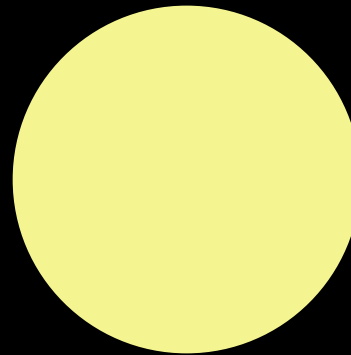
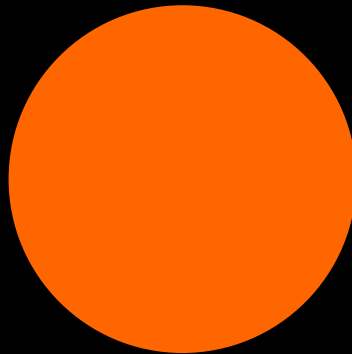
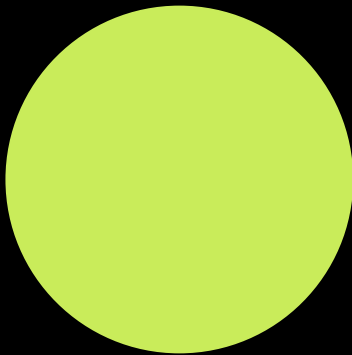
## GROCON

- WHO ARE WE?
- WHAT DRIVES US?
- Our NZEB EXPERIENCES?



# GROCON HISTORY

## Before Sustainability Ratings

























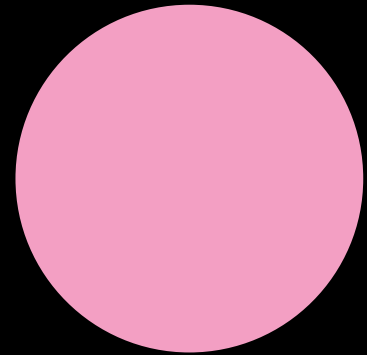
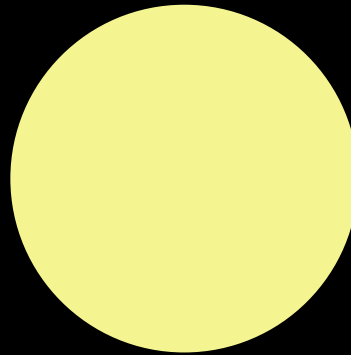
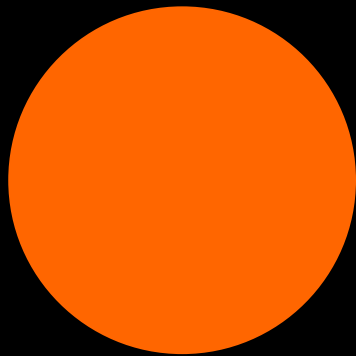
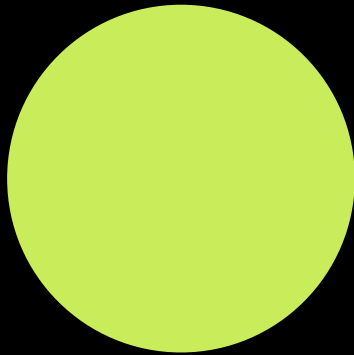






# GROCON HISTORY

After Sustainability Ratings







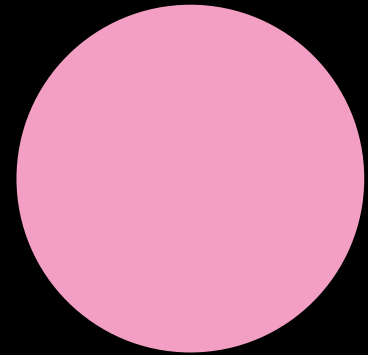
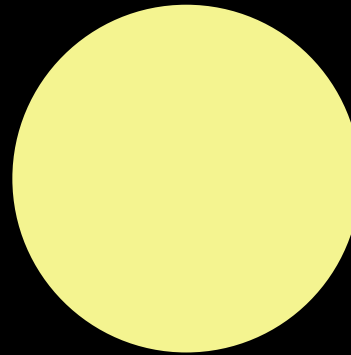
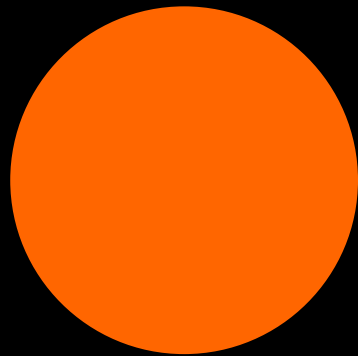
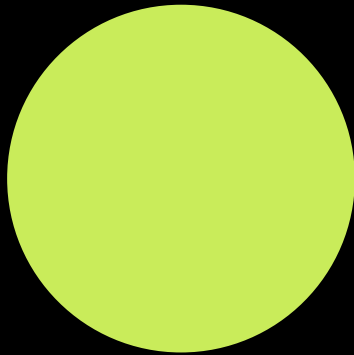




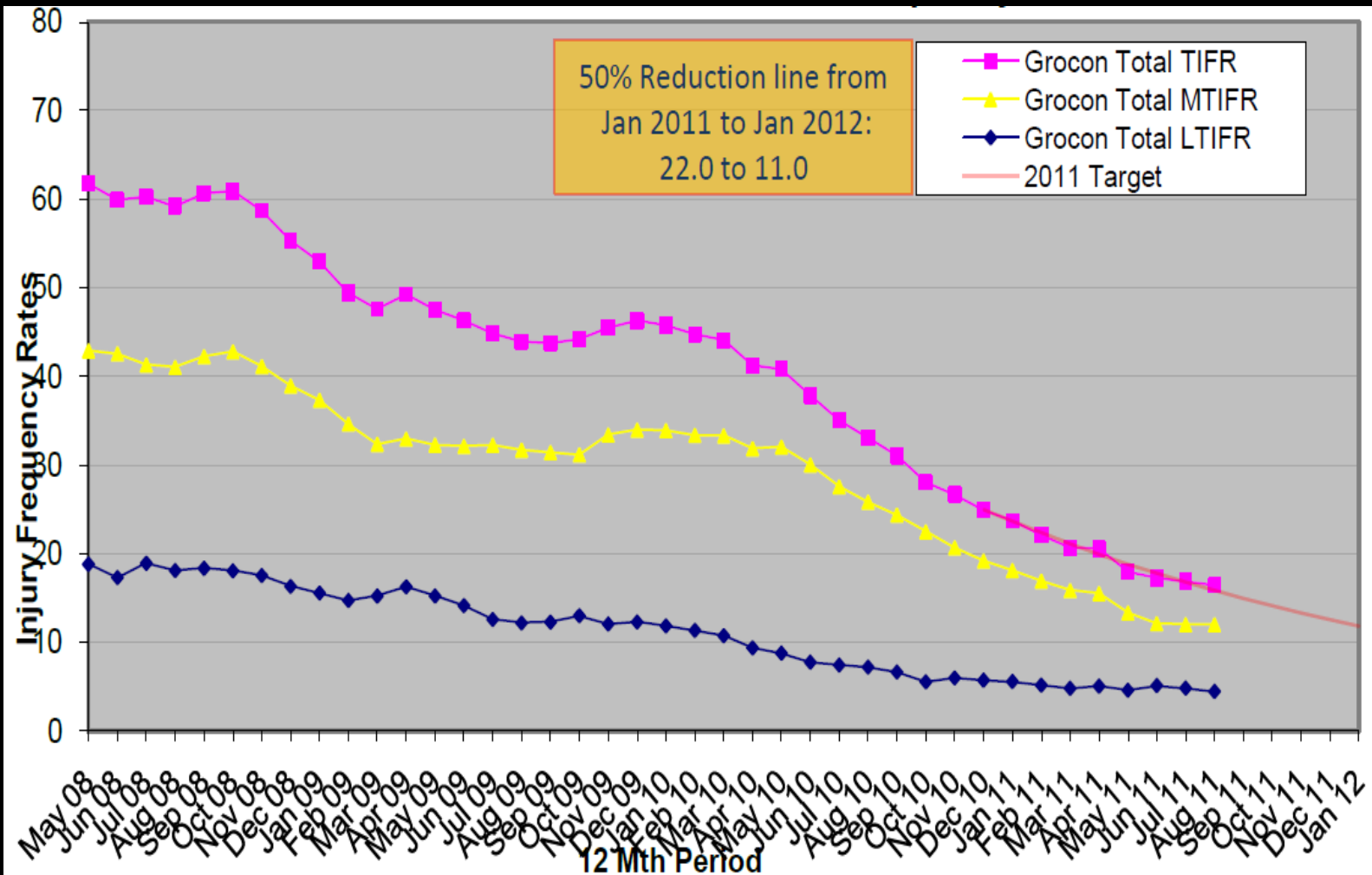


# GROCON VALUES

Safety  
Sustainability  
Community  
Innovation







**“We will become the safest construction company in the world.”**



*Common Ground, Sydney*

*Common Ground, Melbourne*



“...too often in the past, building and development companies like ours have delivered great outcomes in terms of the **built** form .... but we haven’t paid enough attention to the **social** footprint we leave behind.”

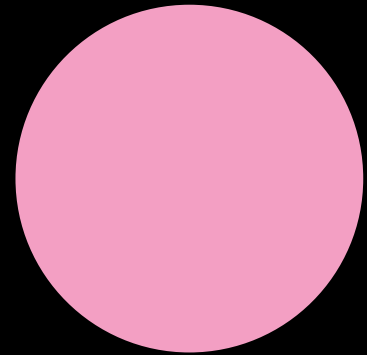
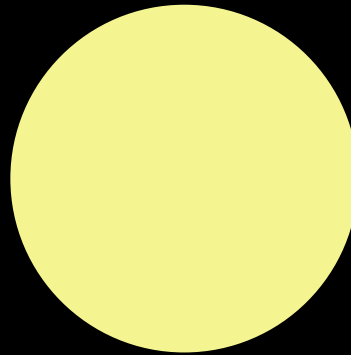
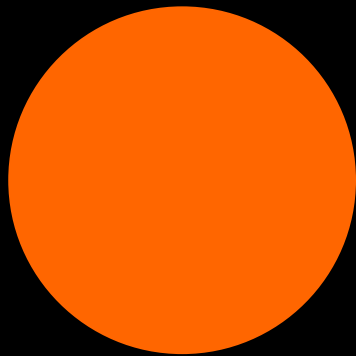
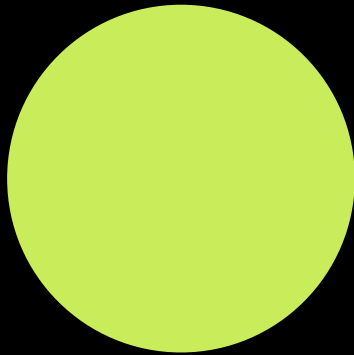






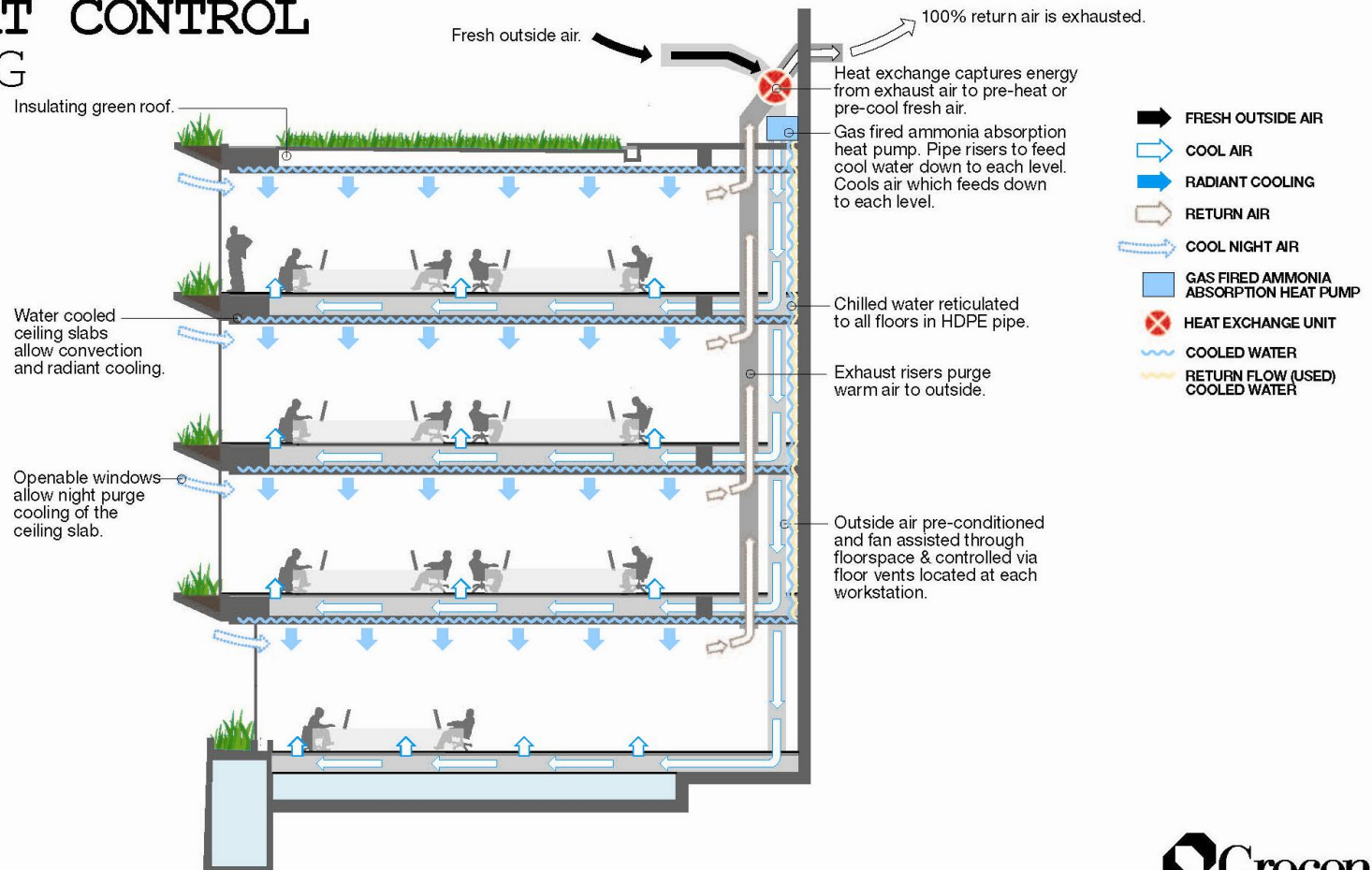
# CARBON NEUTRAL

Pixel Building, Melbourne





# VENTILATION AND COMFORT CONTROL COOLING

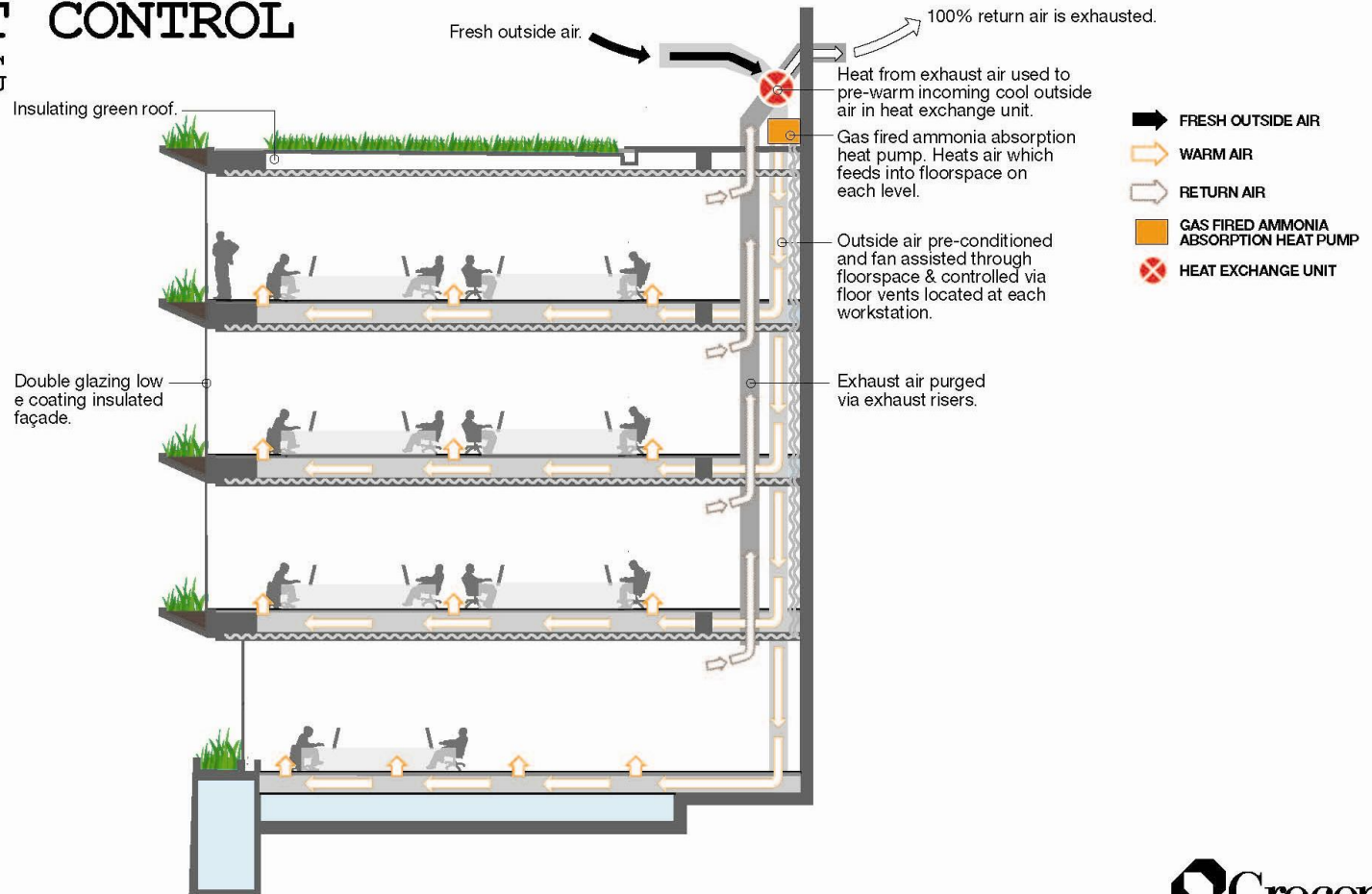


PIXEL

Grocon



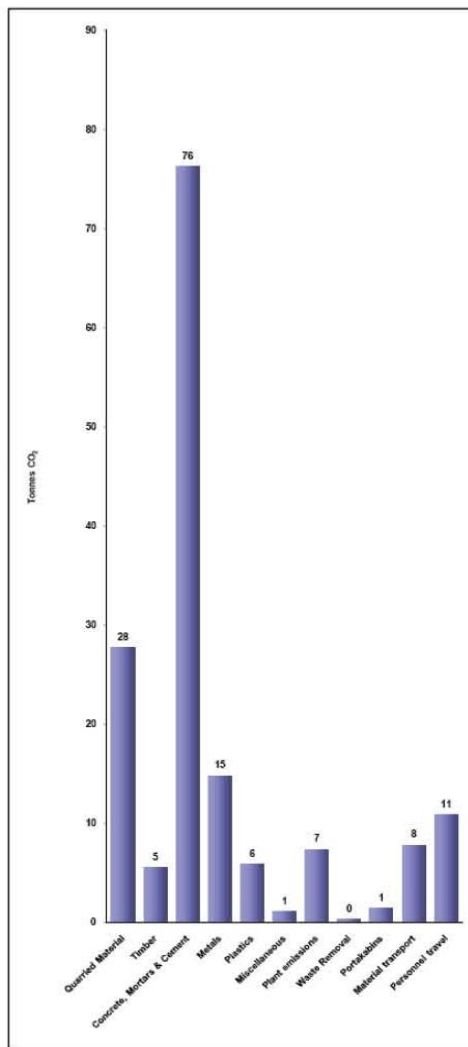
# VENTILATION AND COMFORT CONTROL HEATING



PIXEL

Grocon





Embodied Carbon Sub-totals	tonne	%
Quarried Material	27.8	17%
Timber	5.5	3%
Concrete, Mortars & Cement	76.3	48%
Metals	14.8	9%
Plastics	5.9	4%
Miscellaneous	1.1	1%
Plant emissions	7.4	5%
Waste Removal	0.3	0%
Portakabins	1.4	1%
Material transport	7.8	5%
Personnel travel	10.9	7%
Total	159	100%

- Pixel Total Embodied Carbon = 159,000 kg CO2e
- Average Anticipated Building Life = 50 Years
- Annualised Embodied Carbon = 3,180 kg CO2e



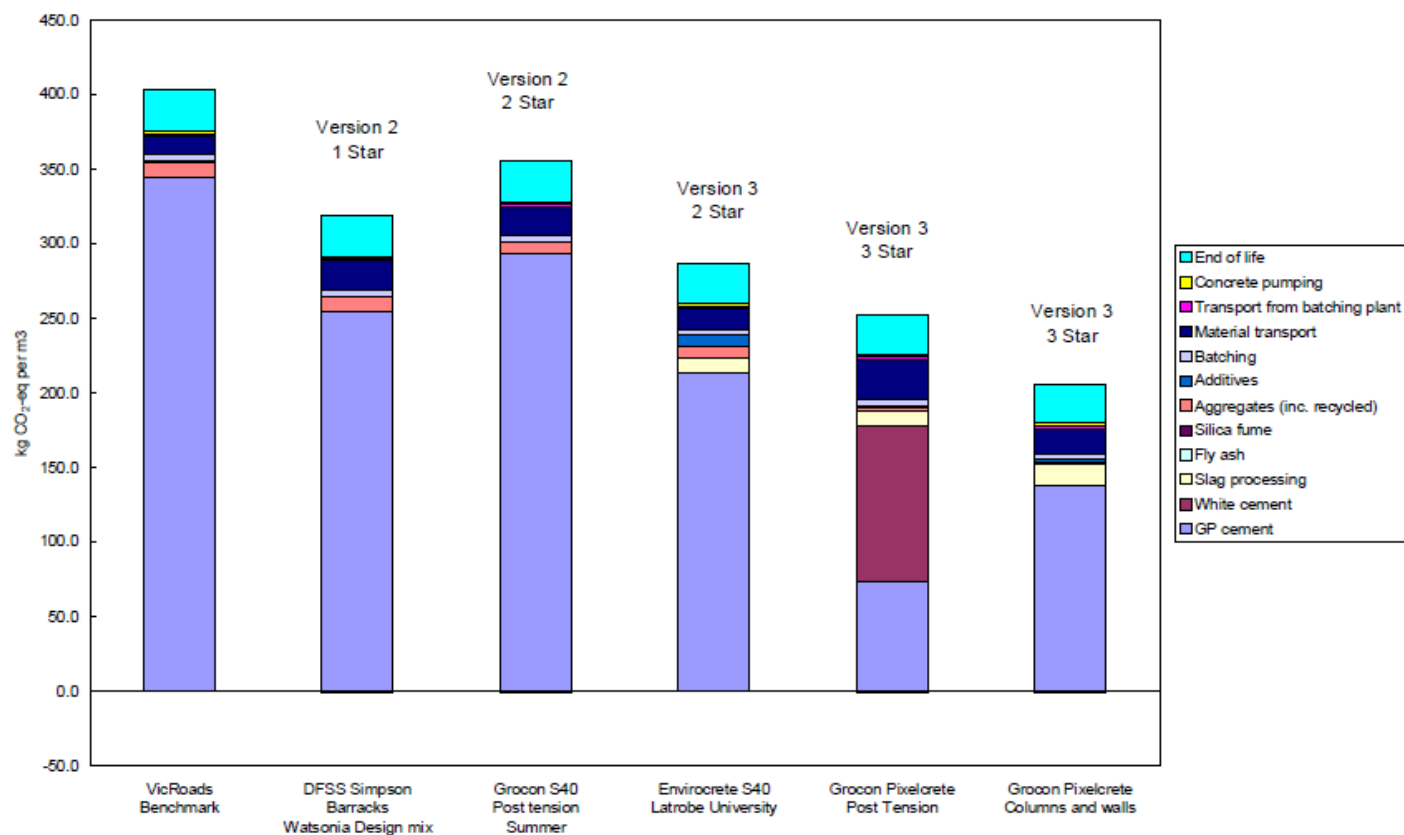
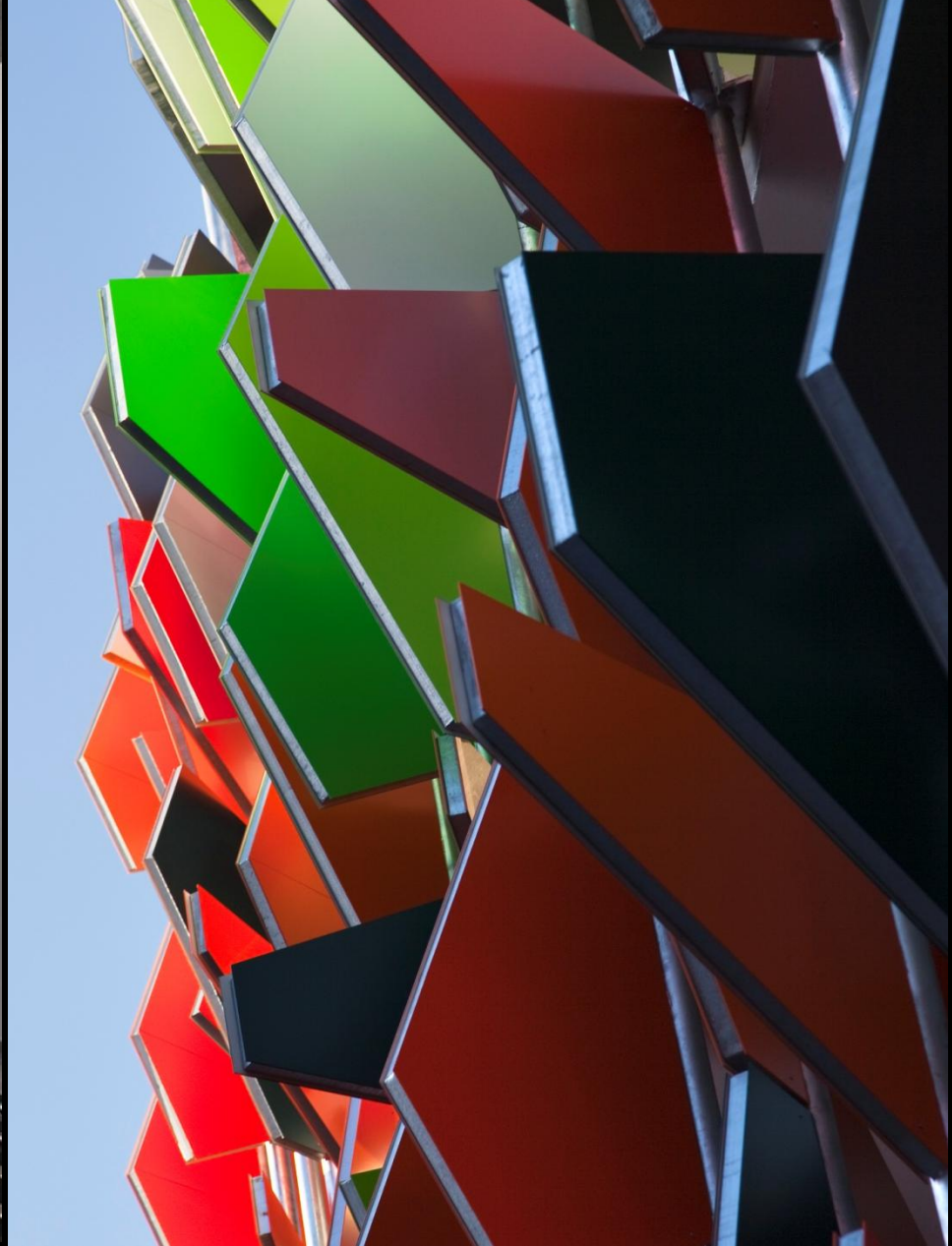
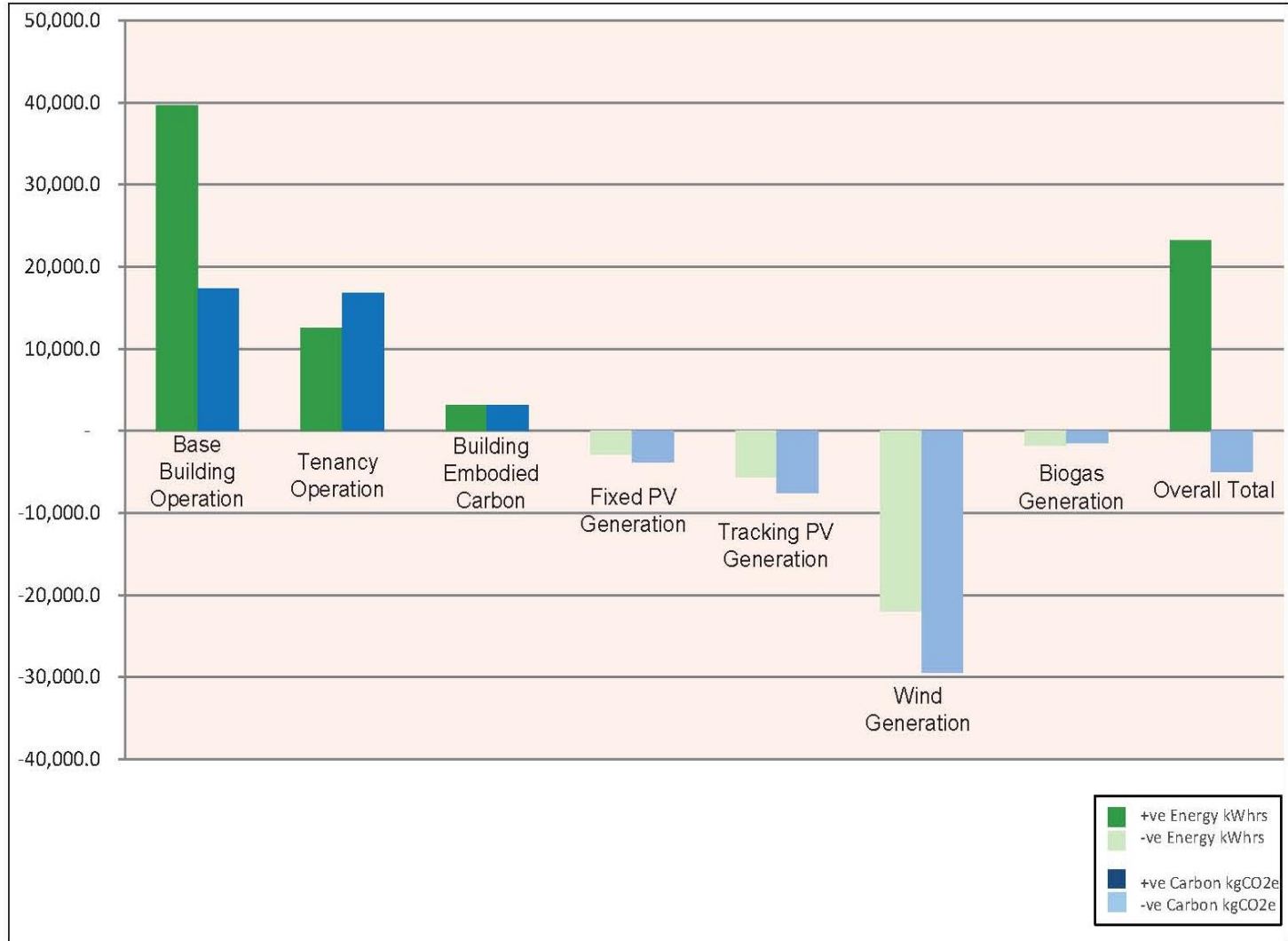


Figure 8-1. Disaggregated characterisation results for global warming - consequential approach. Values are reported as kg CO<sub>2</sub>-eq per m<sup>3</sup> utilised at the Pixel site. The Green Building Council of Australia designations are provided above the mixes, where relevant.







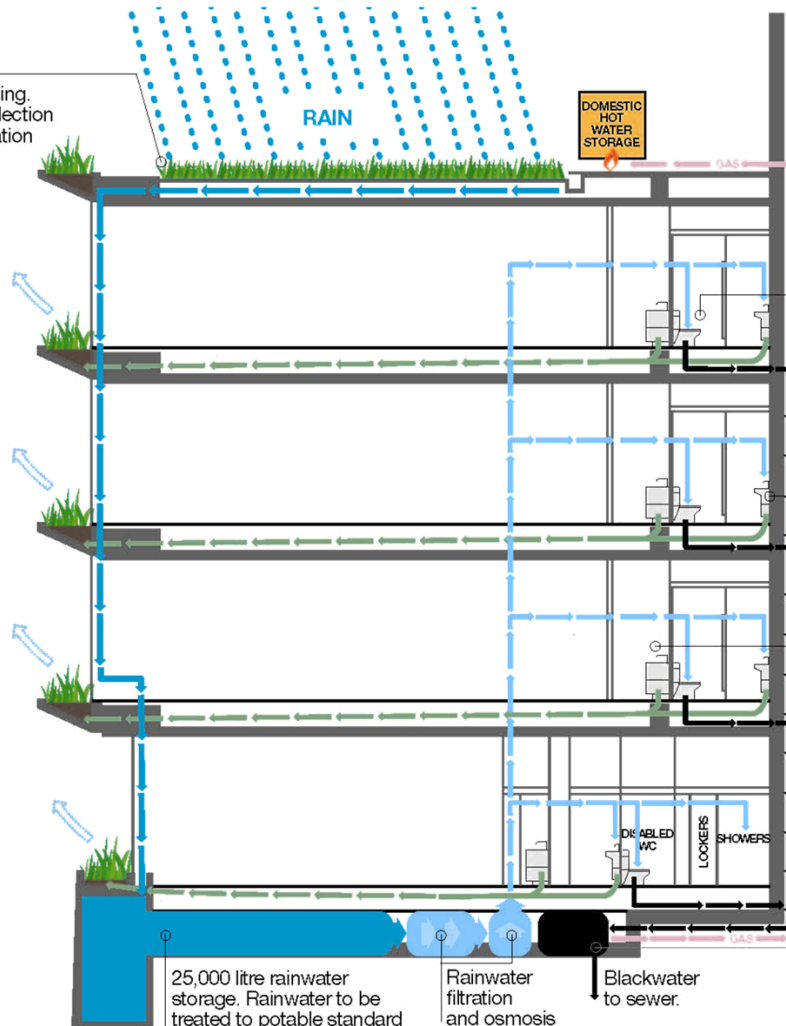


Extensive green roof with native grass planting. Used for rainwater collection and filtration with irrigation by rainwater only.

North and west planters for shading with grey water irrigation.

Greywater direct from showers and basins evaporates in reed beds.

Planters act as passive greywater discharge systems.



Vacuum flush toilets with very low water use are supplied with treated rainwater and discharged to sewer.

Greywater from basins and showers is directed to the planters through the raised floor. Planters are reed bed wetlands that provide passive greywater treatment.

Only potable water supply is to drinking tap in kitchen.

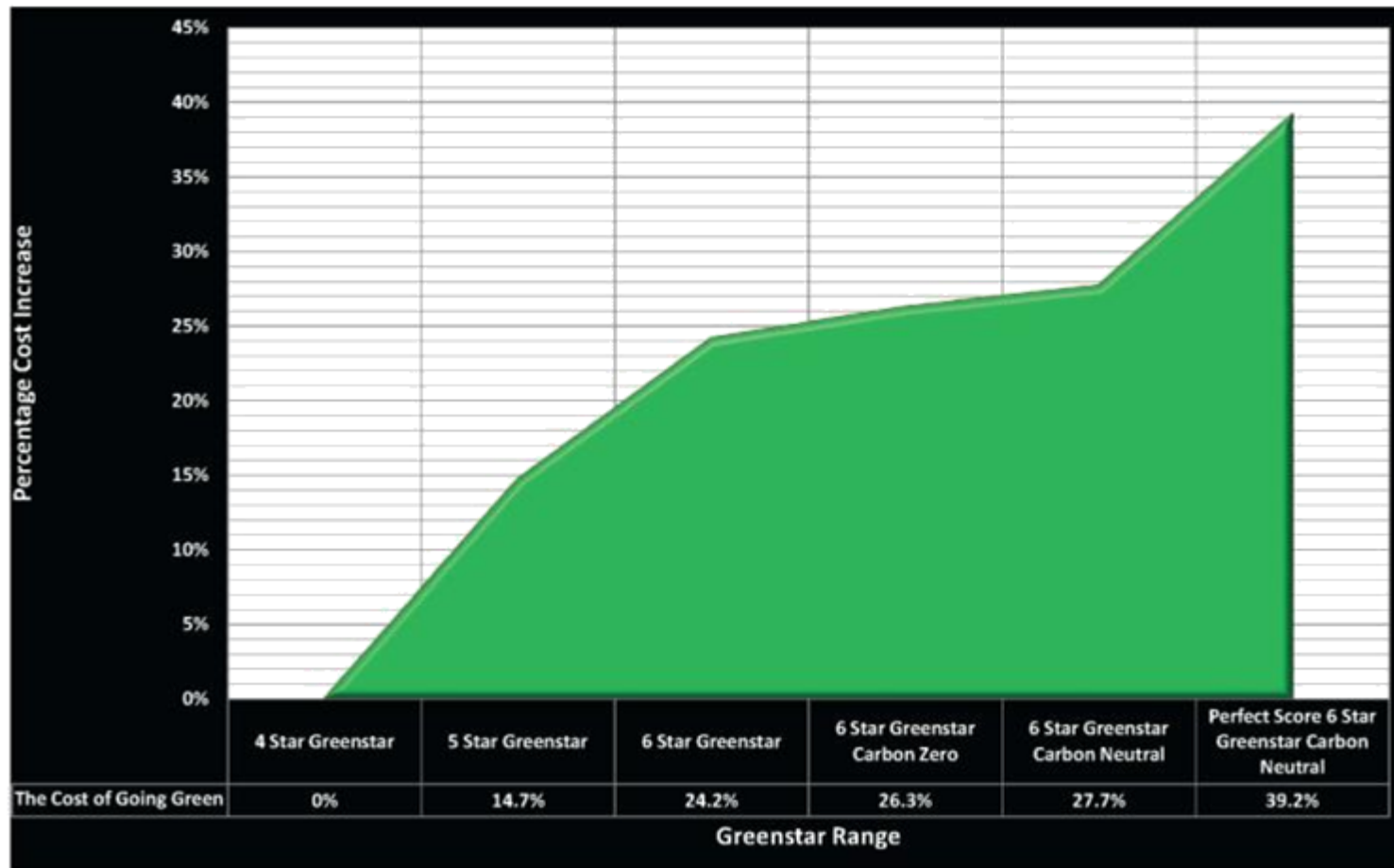
Concentrated waste to anaerobic digester to produce gas to heat hot water unit on roof.

25,000 litre rainwater storage. Rainwater to be treated to potable standard to supply basins, sinks, showers and toilets.

Rainwater filtration and osmosis treatment plant.

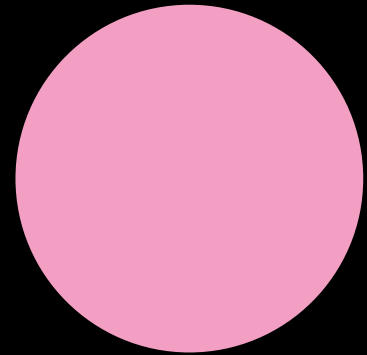
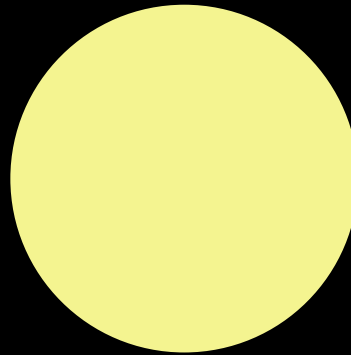
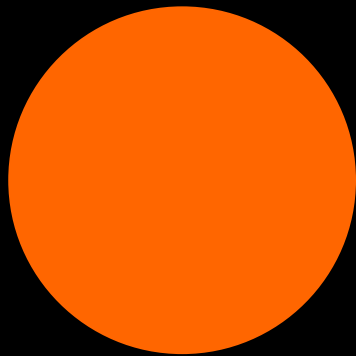
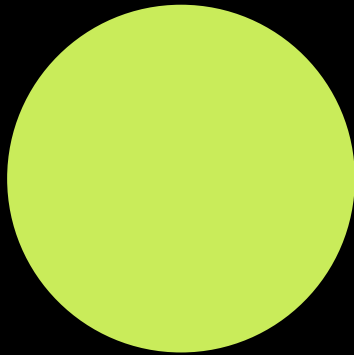
Blackwater to sewer.





# ZERO ENERGY

Legion House, Sydney



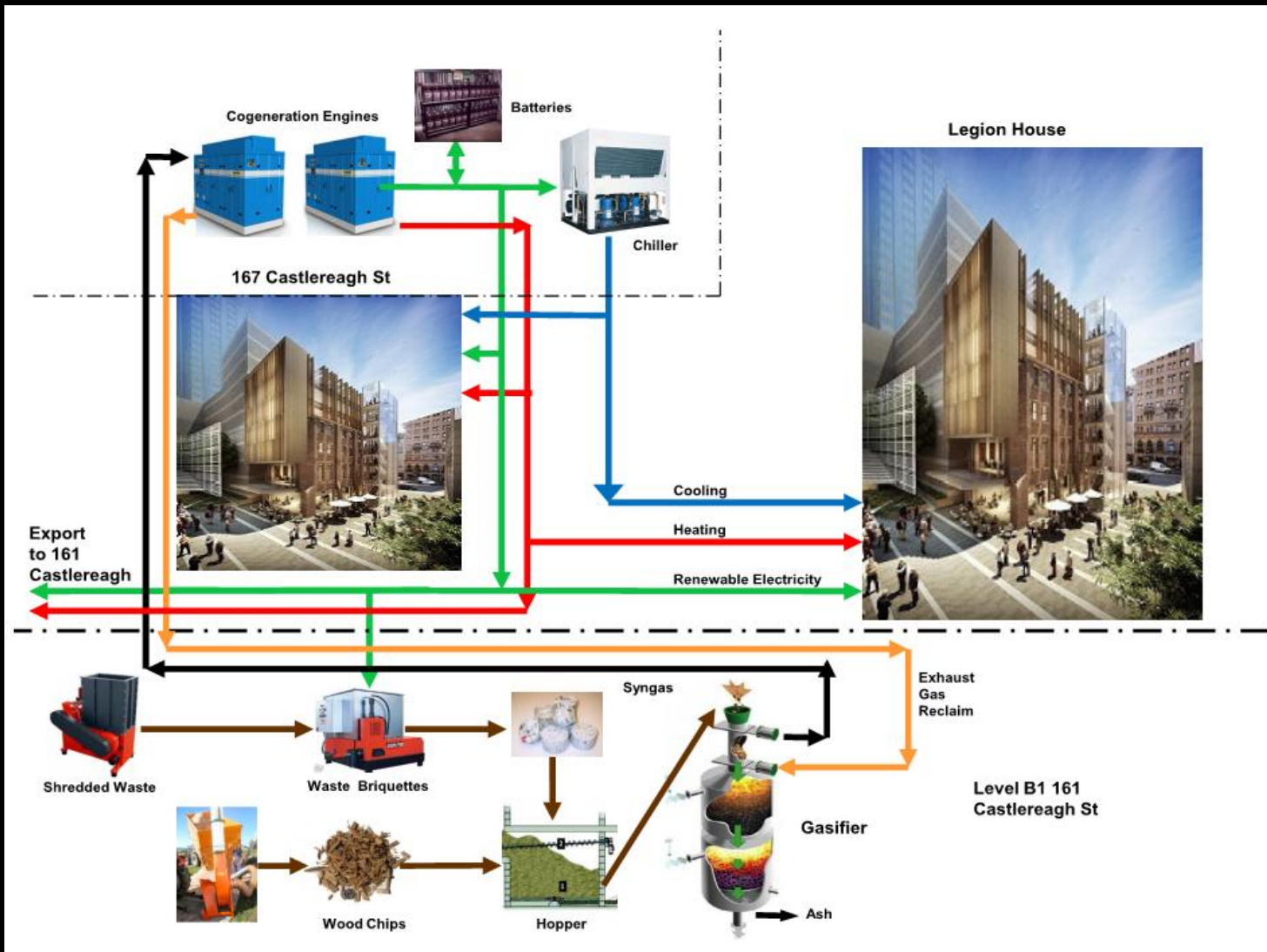
















Thanks