

# Water & Energy – traps, pitfalls and success

Dr Anne Hellstedt

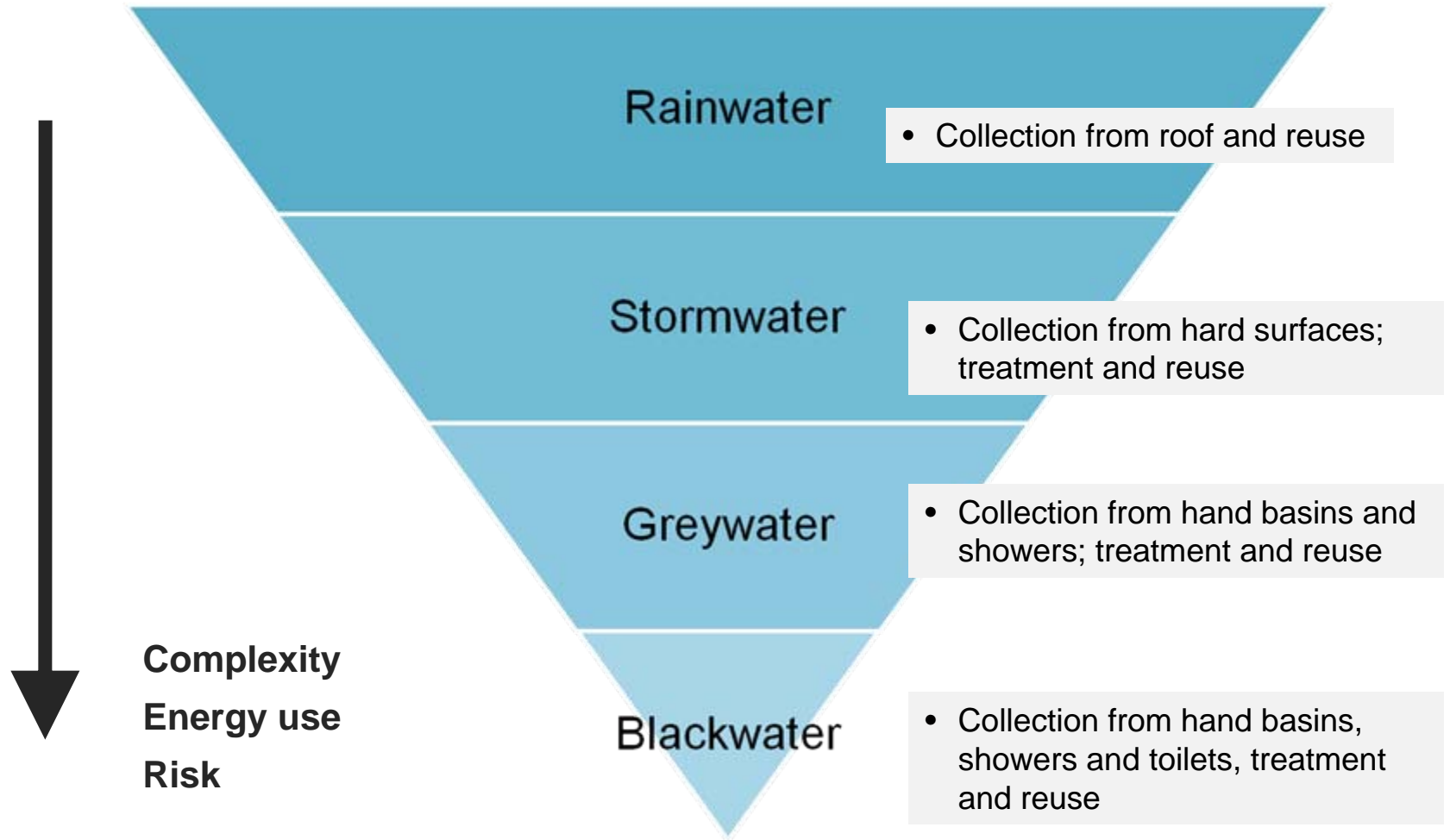
February 28, 2011



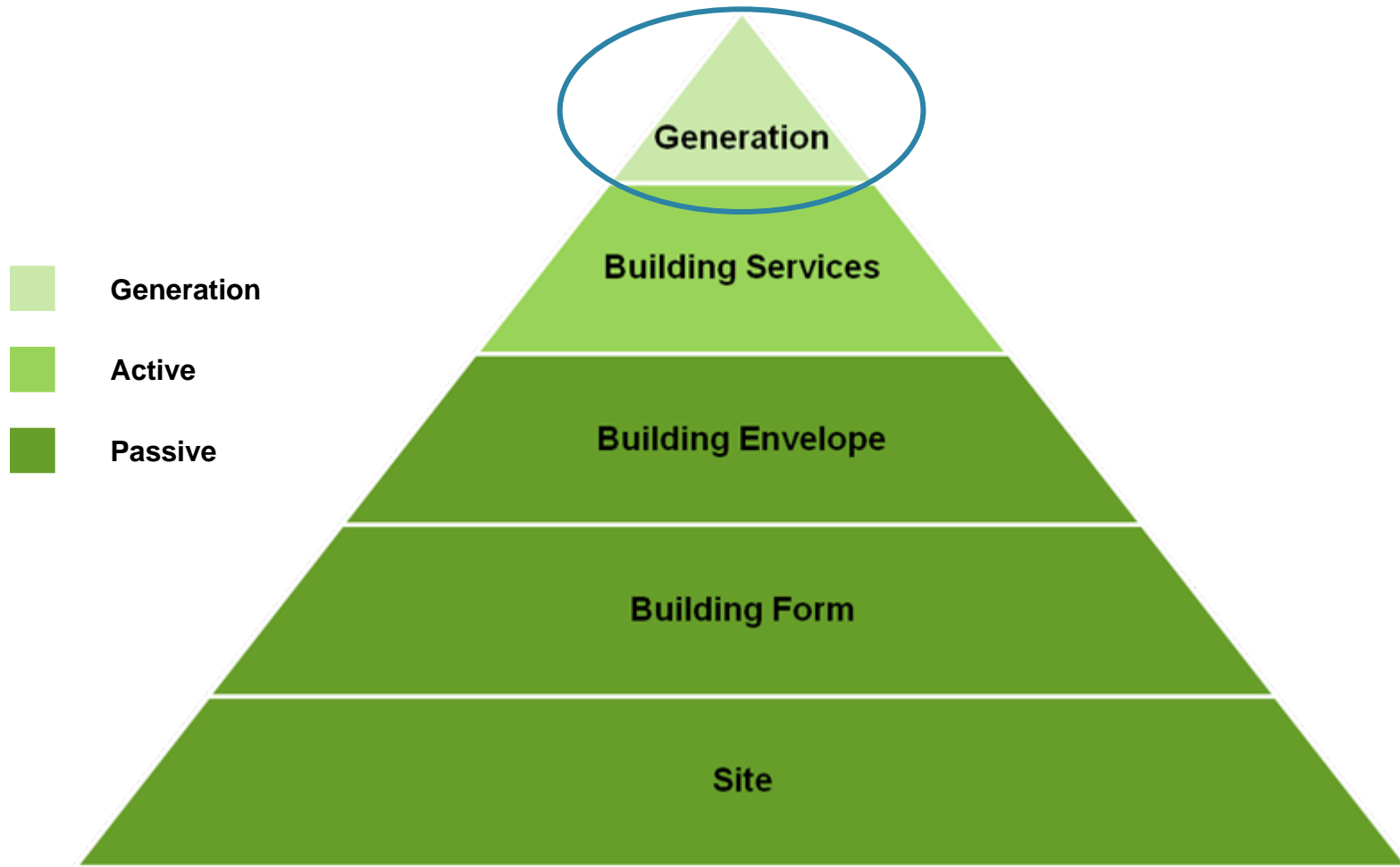
# Water – Energy



# Water

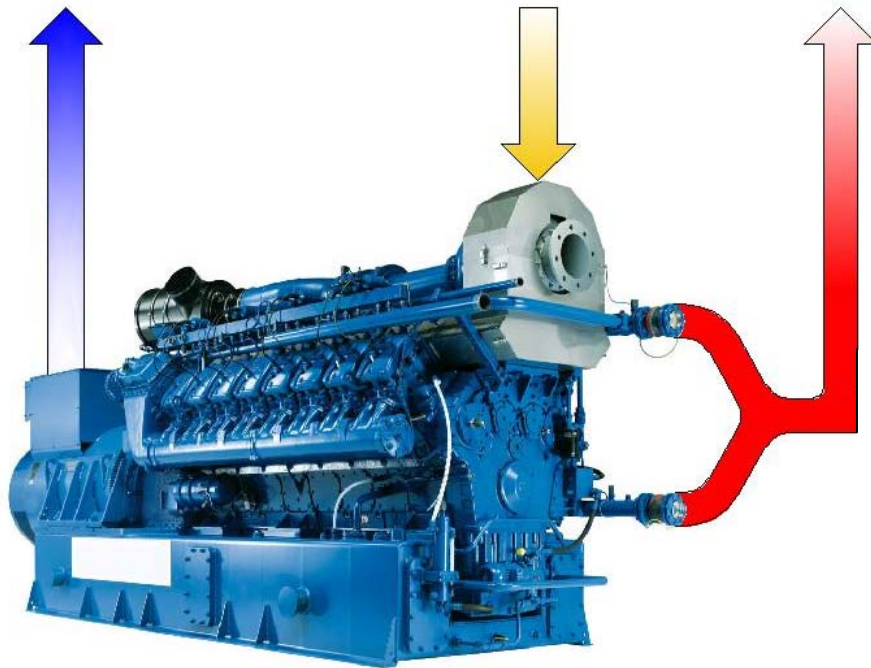


# Energy – Greenhouse Gas Emissions



# Co-generation

ELECTRICITY      GAS      HOT WATER



GENERATOR

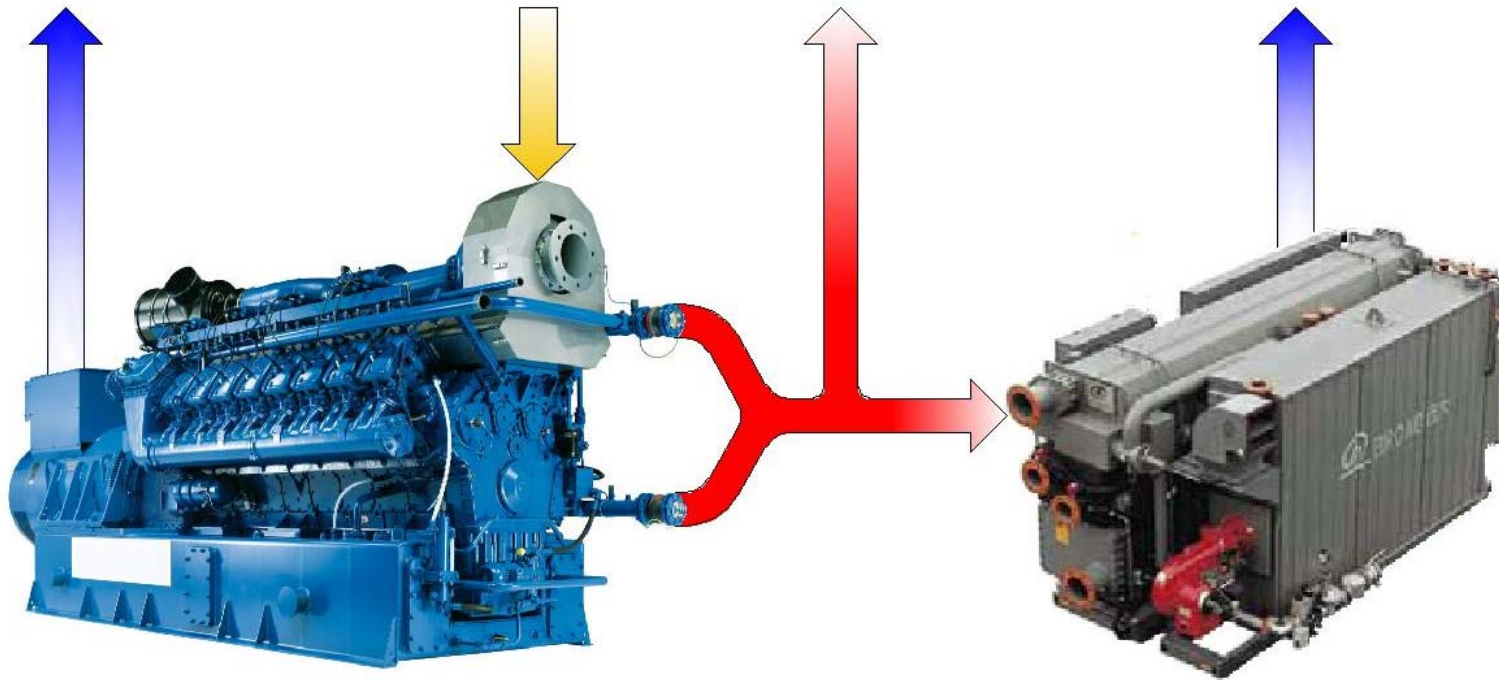
# Tri-generation

ELECTRICITY

GAS

HOT WATER

CHILLED WATER



GENERATOR

ABSORPTION CHILLER

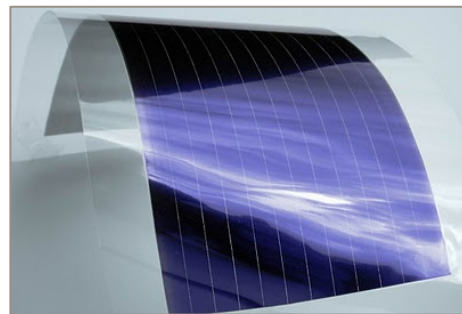
# Renewables – Photovoltaic



Monocrystalline



Polycrystalline



Thin film

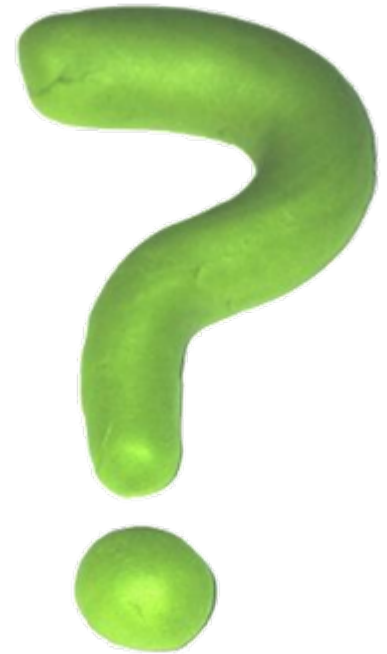


Building Integrated PV

# Renewables – Wind



Design to Operation –  
What does success look like?



## Durack 2 – 2 Victoria Avenue, Perth, WA



- 6 Star Green Star Office Design v2 (First 6 Star project in WA)
- 4 storey office building
- ~7,000 m<sup>2</sup> NLA
- PCA Grade A

## Durack 2 – 2 Victoria Avenue, Perth, WA

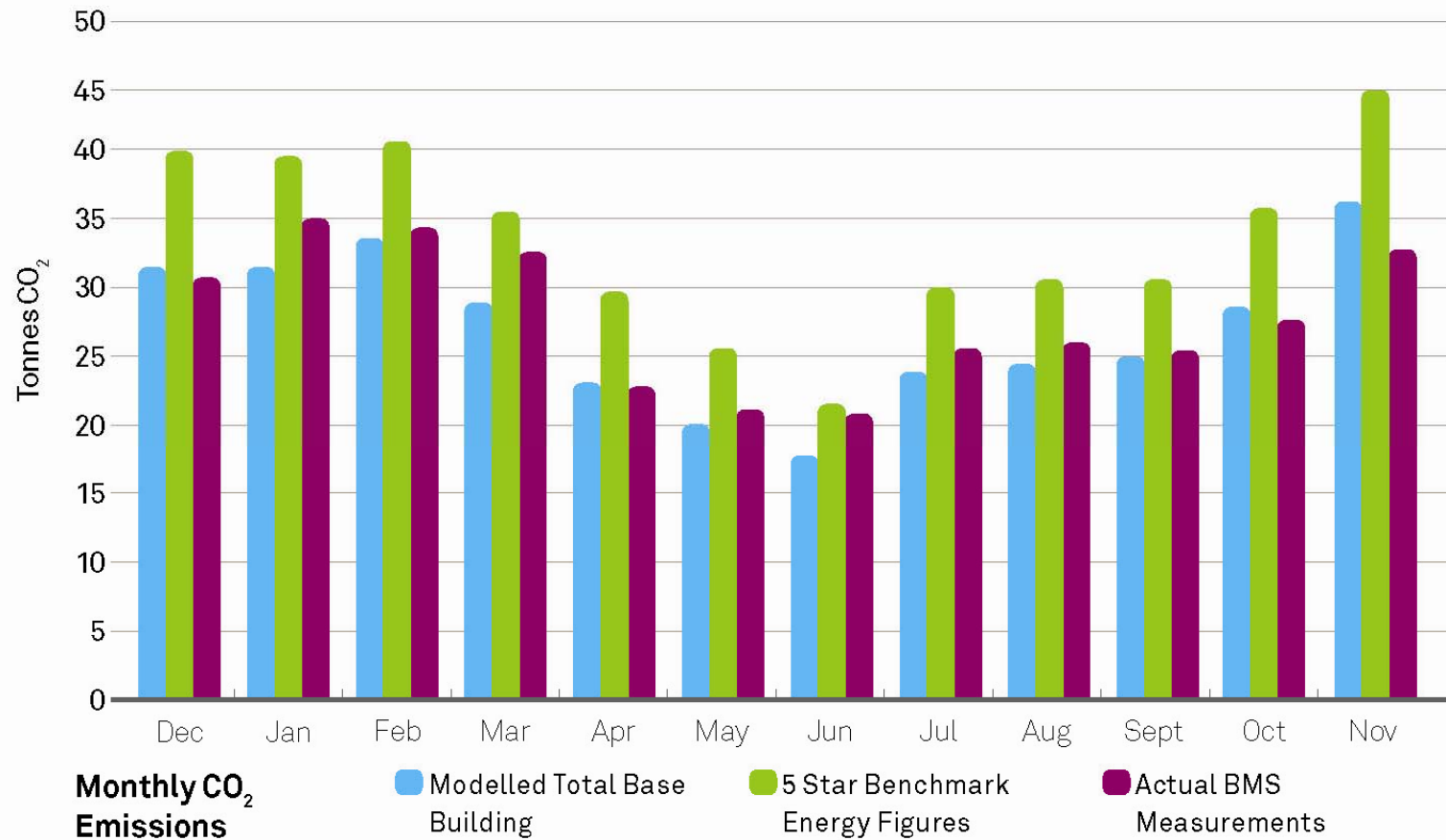


Main ESD features:

- Excellent shading and automated louvres on the western façade
- Active chilled beam air conditioning systems
- Daylight compensation and programmable lighting control
- 3 Helical wind turbines on roof: total ~15kW
- Grey water recycling plant

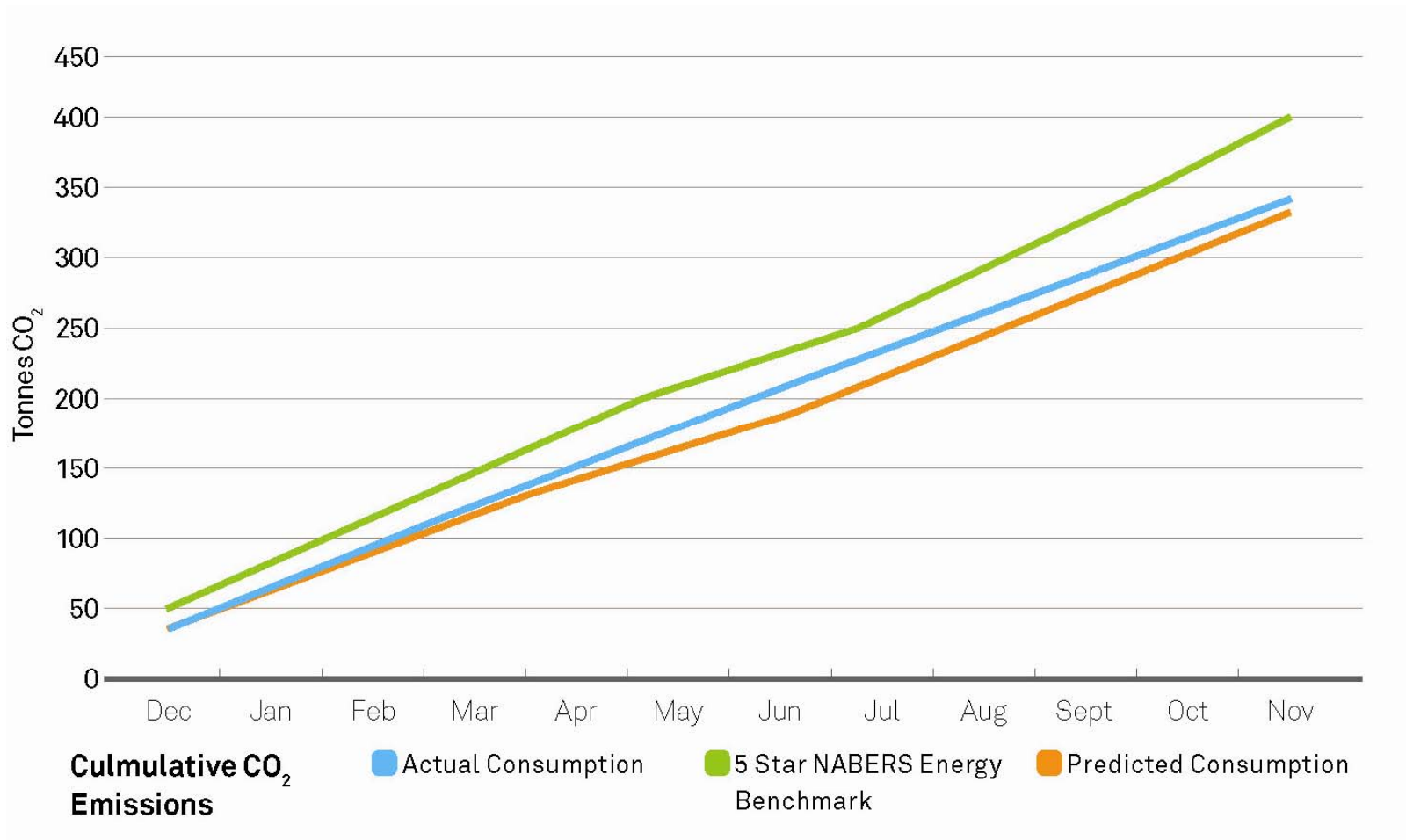


# Durack 2 – 2 Victoria Avenue, Perth, WA





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# Panel Discussion