

# 25 Years of NABERS : How measuring and managing drives world class performance in Buildings



# Agenda

NABERS introduction

---

NABERS embodied carbon framework

---

NABERS Renewable Energy Indicator

---



# NABERS introduction



# We help building owners and occupants to understand their building performance



# NABERS - A language for sustainability



# NABERS Guiding principles



Based on metered  
performance



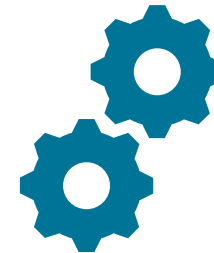
Fair comparison



Simple  
yet robust



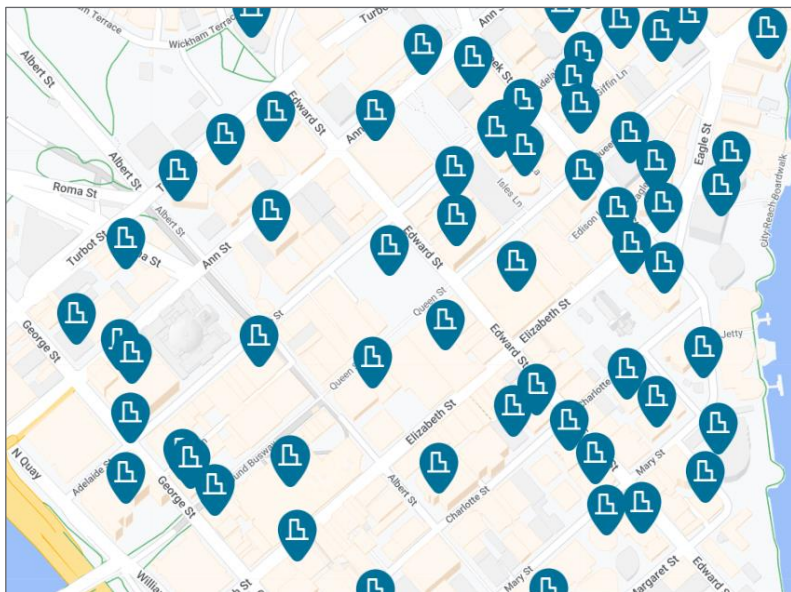
Technology neutral



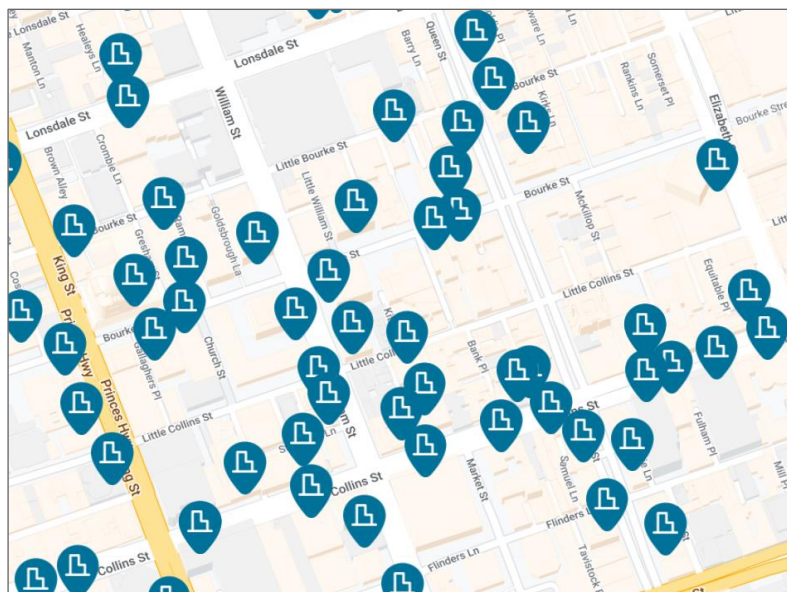
Operational control



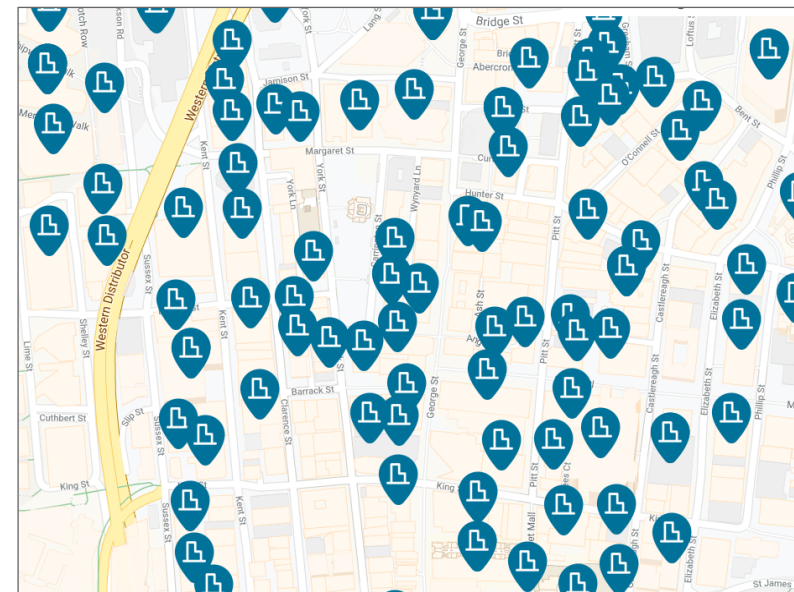
## Brisbane



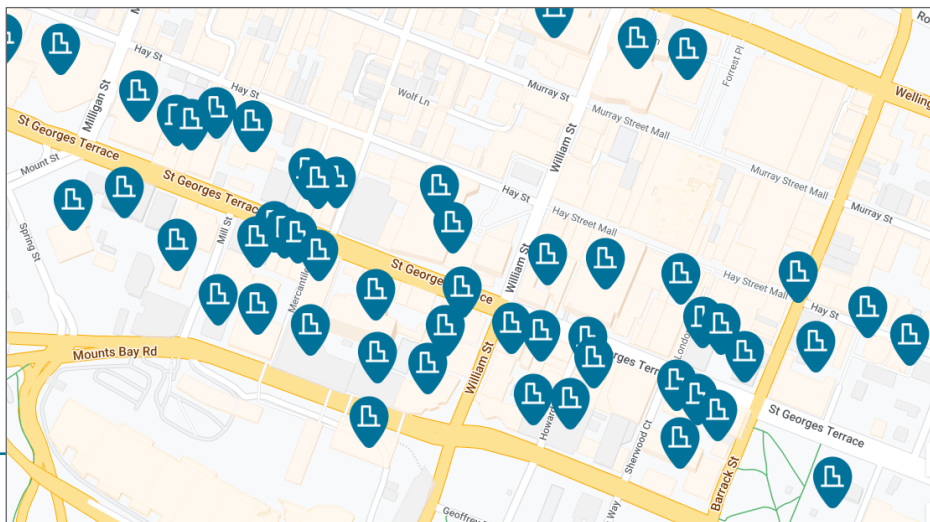
## Melbourne



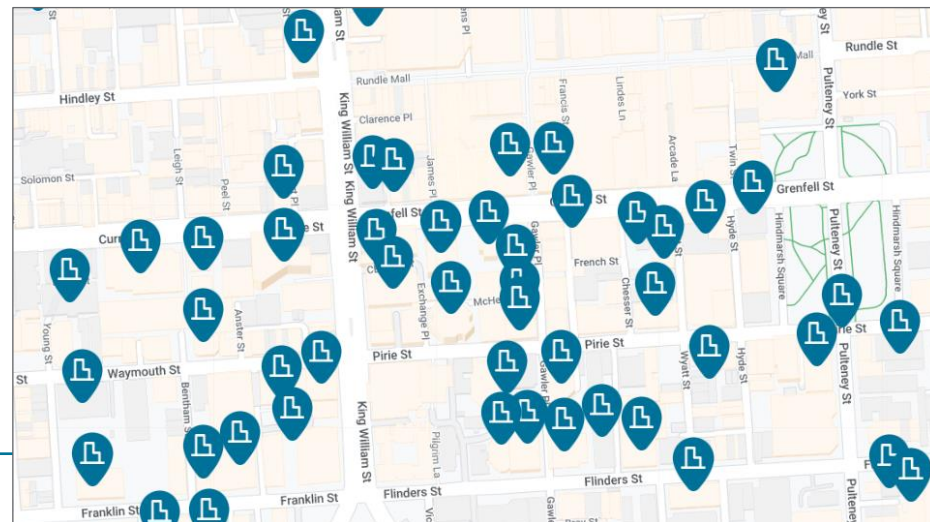
## Sydney



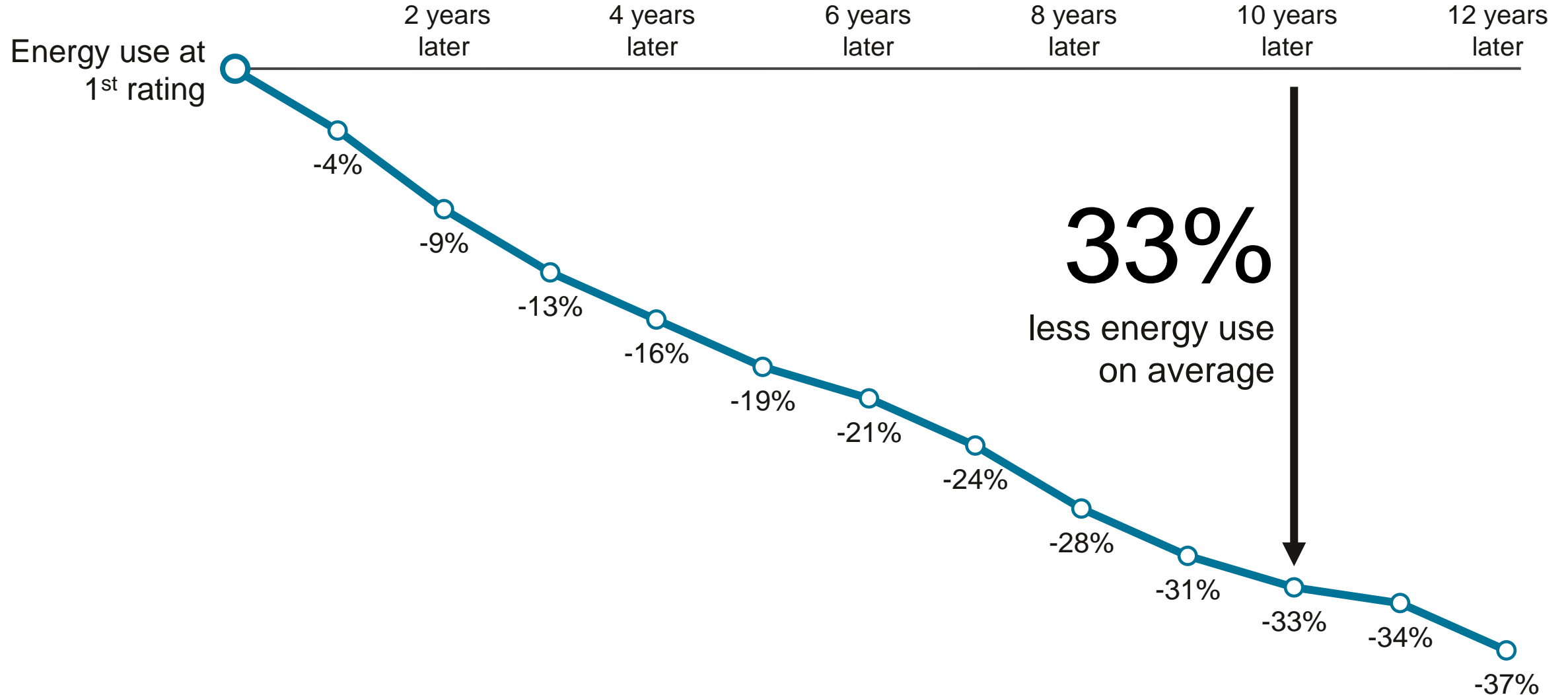
## Perth



## Adelaide

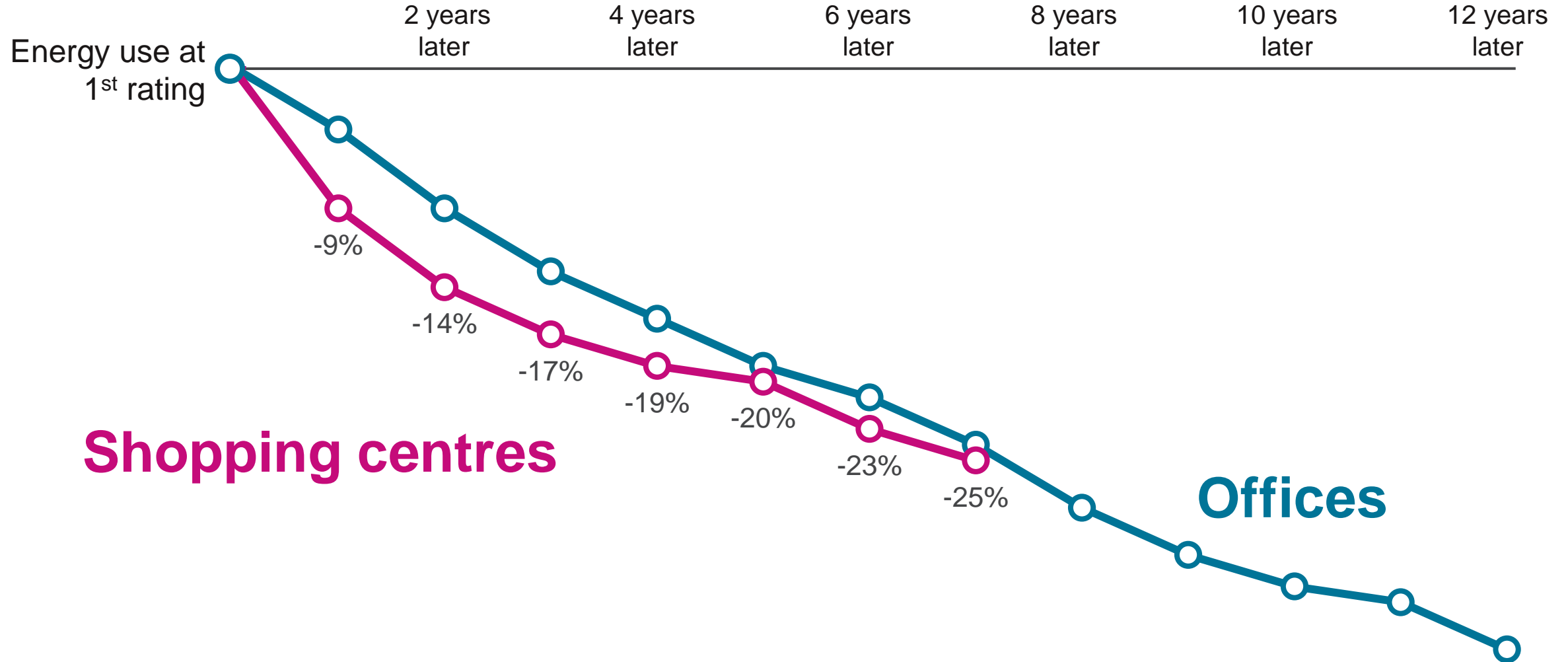


# NABERS-certified buildings reduce energy use at one of the fastest rates in the world

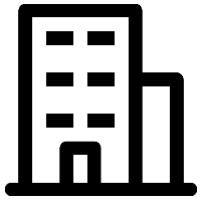




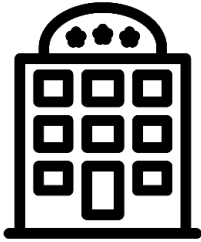
# Annual energy savings from NABERS users



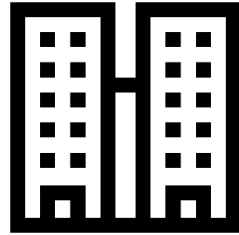
# Sectors currently covered by NABERS Energy



Offices



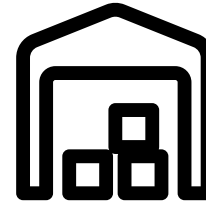
Hotels



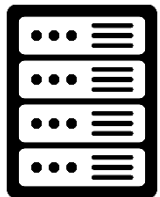
Apartment  
Buildings



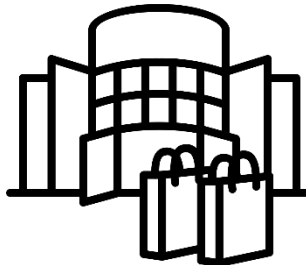
Residential  
aged care



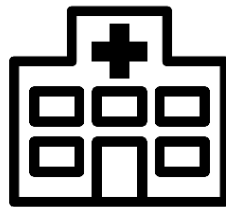
Warehouses



Data centres



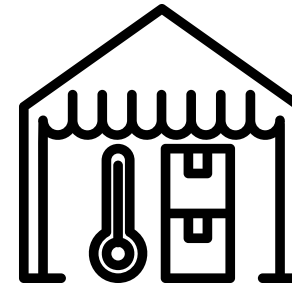
Shopping  
centres



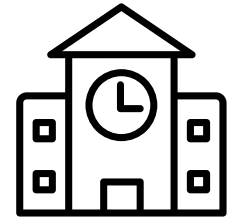
Public  
Hospitals



Retirement  
living



Cold stores



Schools



Retail stores

IN DEVELOPMENT



NABERS

# Case Study – Developing the NABERS Embodied Carbon Framework



# What we mean when we say embodied emissions



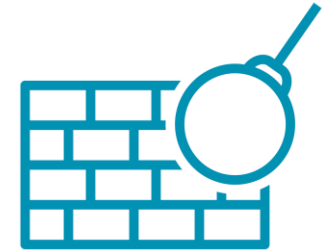
Building materials



Construction



Repairing, refurbishing,  
replacing



End of life



# This is an urgent and complex problem

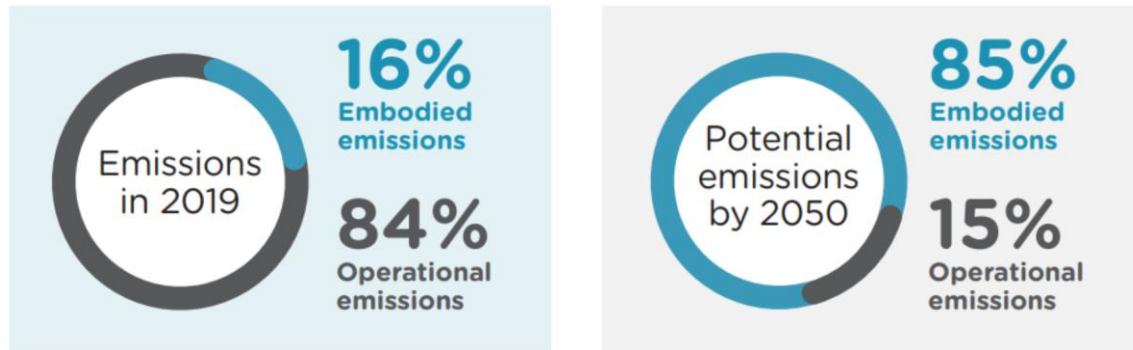


Figure 1.2: Comparison of embodied emissions and operational emissions in 2019 and forecast for 2050<sup>4</sup>

The need to **reduce embodied carbon emissions** is real and **urgent**



The industry is highly fragmented, making comparisons between buildings problematic.



There is **varied understanding**, its **complex** and **costly** to measure. Making it a lot of effort for stakeholders to work out how to measure.





As operational emissions reduce, embodied carbon becomes more significant



Building materials

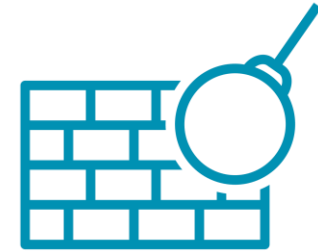


Construction

**A1 – A5**



Repairing, refurbishing,  
replacing



End of life





200+ individuals  
140+ organisations



**Decision makers**  
Developers, owners, tenants



**Project team**  
Architects, engineers and quantity surveyors, construction, LCA experts



**Influencing organisations**  
Policy makers, investors, industry peaks, standards bodies, academics



**Supply side**  
Product manufacturers



HEIDELBERGCEMENT

Buildcorp



# Framework objectives



Drives action to urgently **reduce embodied emissions**



Focuses on **measuring, verifying, comparing** and **disclosing** embodied emissions



Start by **solving well-defined problems** now, rather than waiting to solve all problems in embodied carbon



## Some feedback on framework boundaries for its first iteration



### Upfront carbon

Focuses on new buildings and major refurbishments (including services)



### Most/all buildings

Can be used by buildings in as many sectors as possible

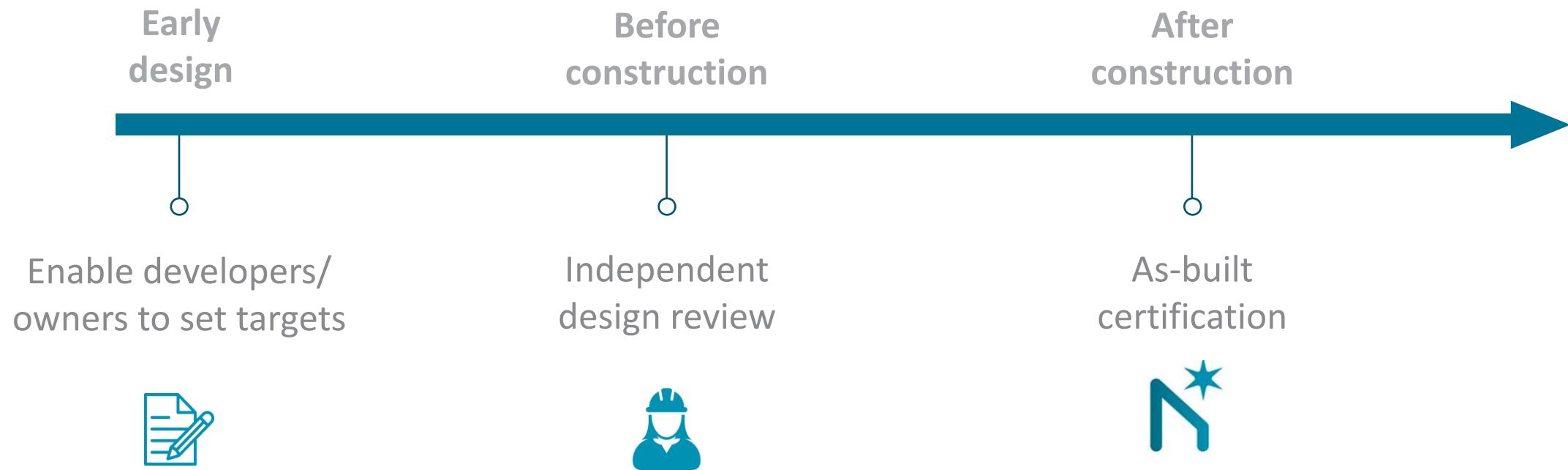


### Base building

Captures the structure, HVAC services, construction, etc. (but possible not tenant fitouts)

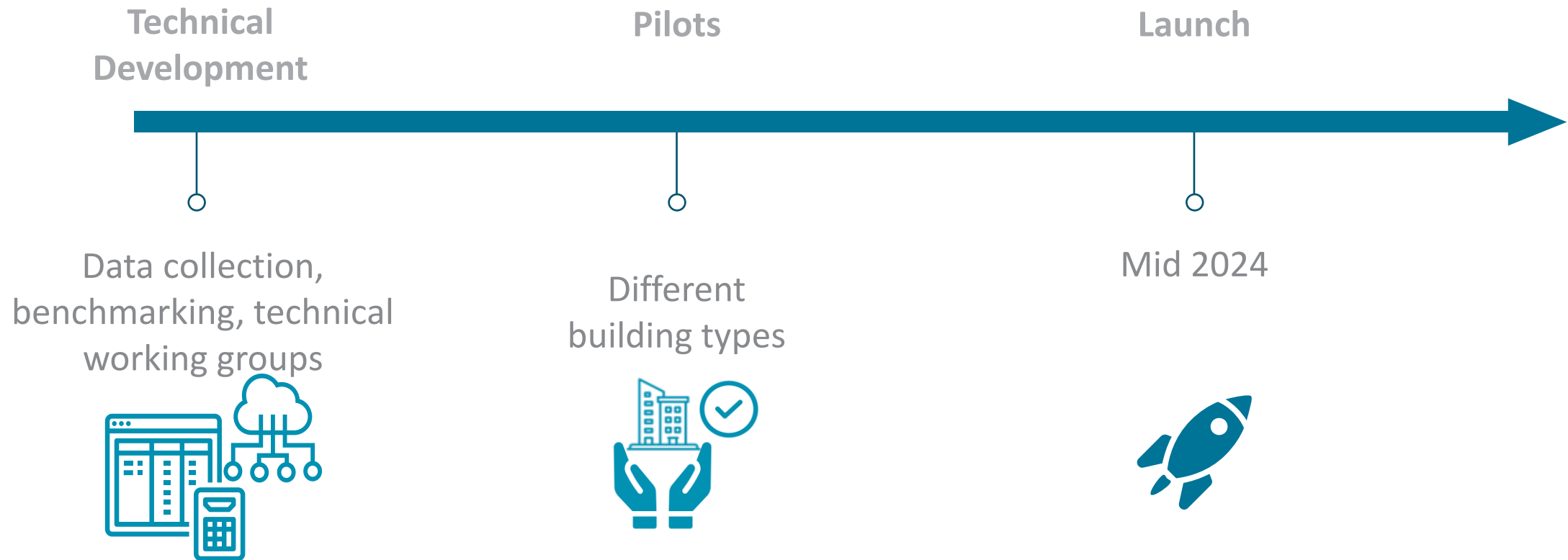


# What the process might look like





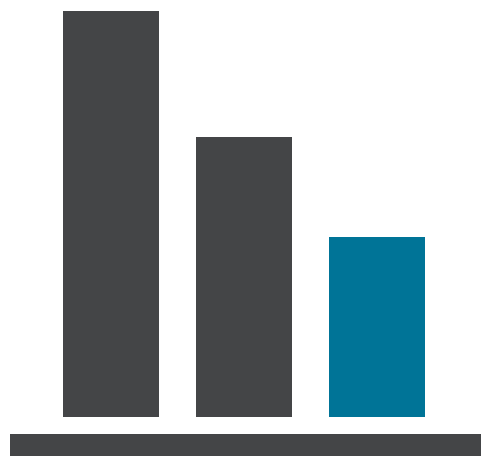
# Next Steps



What is the role of buildings in achieving net zero?



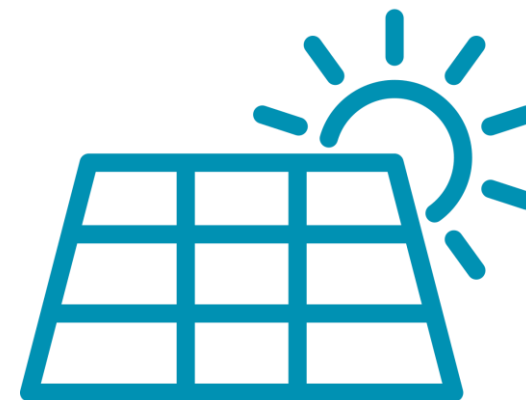
# Three things we need from all buildings to get to net zero emissions



**Reduce energy use**



**Eliminate onsite  
fossil fuels**

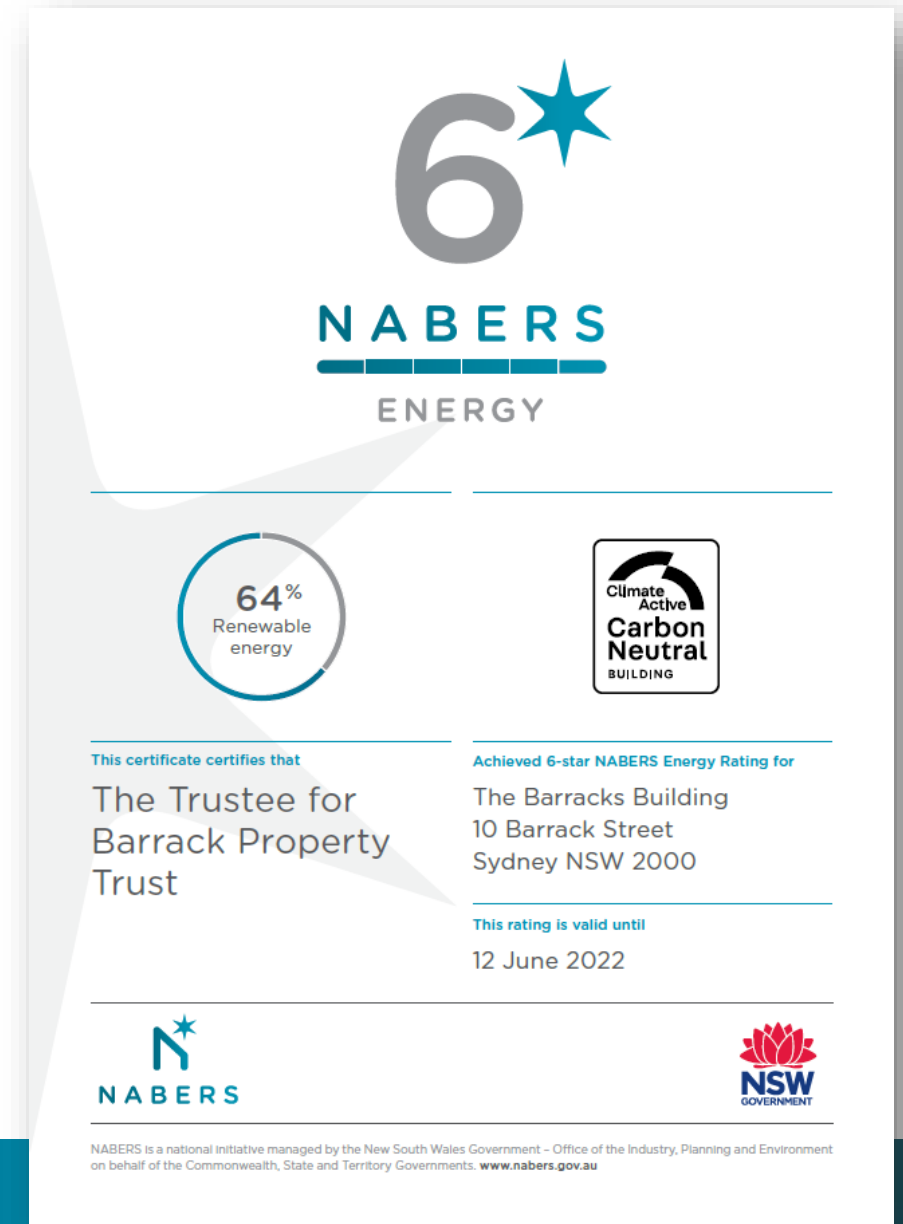
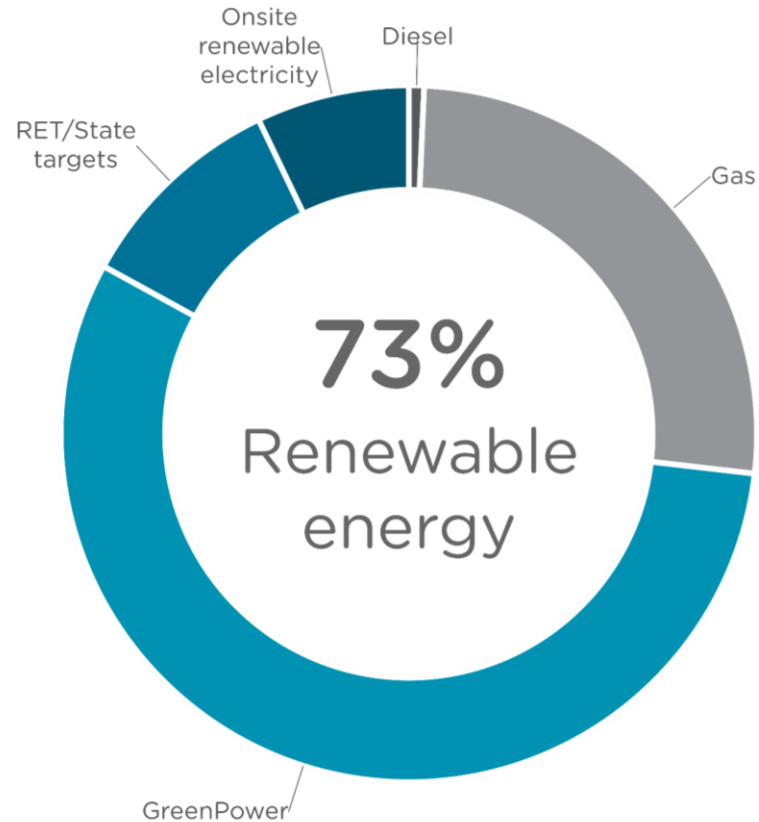


**Purchase 100%  
renewable energy**

**From June 2023, all NABERS Energy ratings will include  
a Renewable Energy Indicator**



# This is what it looks like





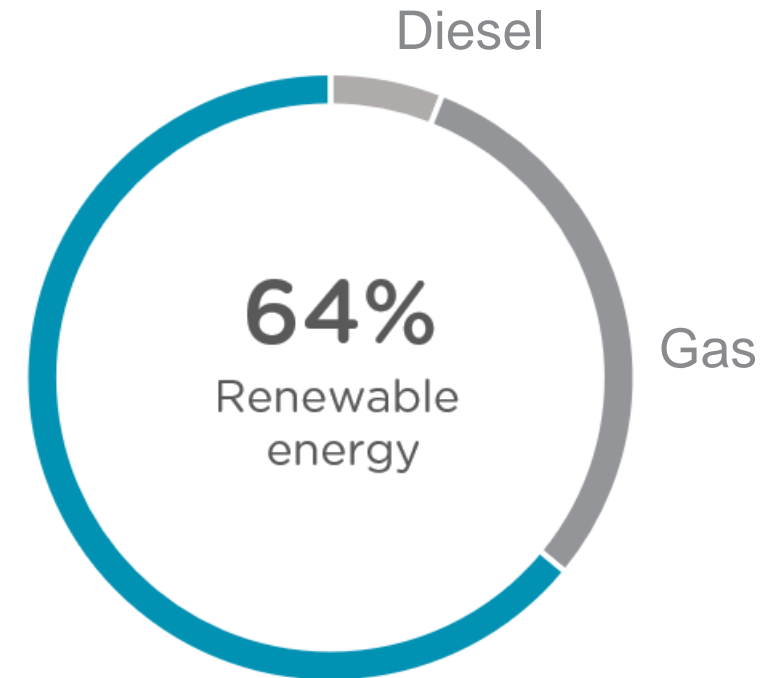
# What is the Renewable Energy Indicator?

Renewable  
Energy

---

Non-Renewable +  
Renewable Energy

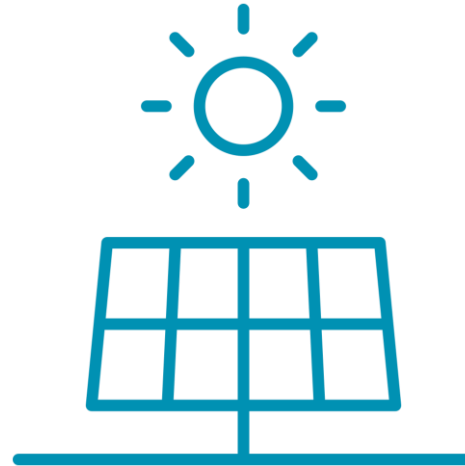
Renewable  
electricity



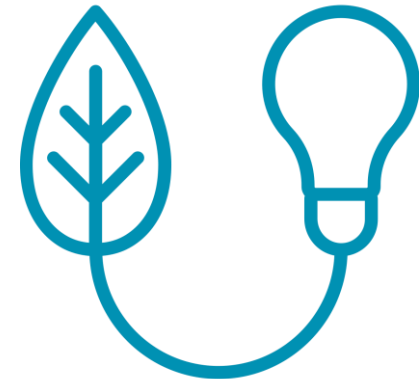
# What is considered renewable energy?



Renewable Energy  
Target +  
jurisdictional renewable  
energy purchasing



On-site renewable  
energy



Renewable Energy  
purchases



# Key areas of need to get buildings to net zero

High level of what we have heard so far:



**Collect, and make meaning of data**



**Need to move from tech led to building focused approach**



**Make sure net zero is front of mind when making decisions**



**[nabers@environment.nsw.gov.au](mailto:nabers@environment.nsw.gov.au)**

