NABERS

NABERS Average Emissions Intensity Guidance

Developed for financial institutions in Australia

June 2025

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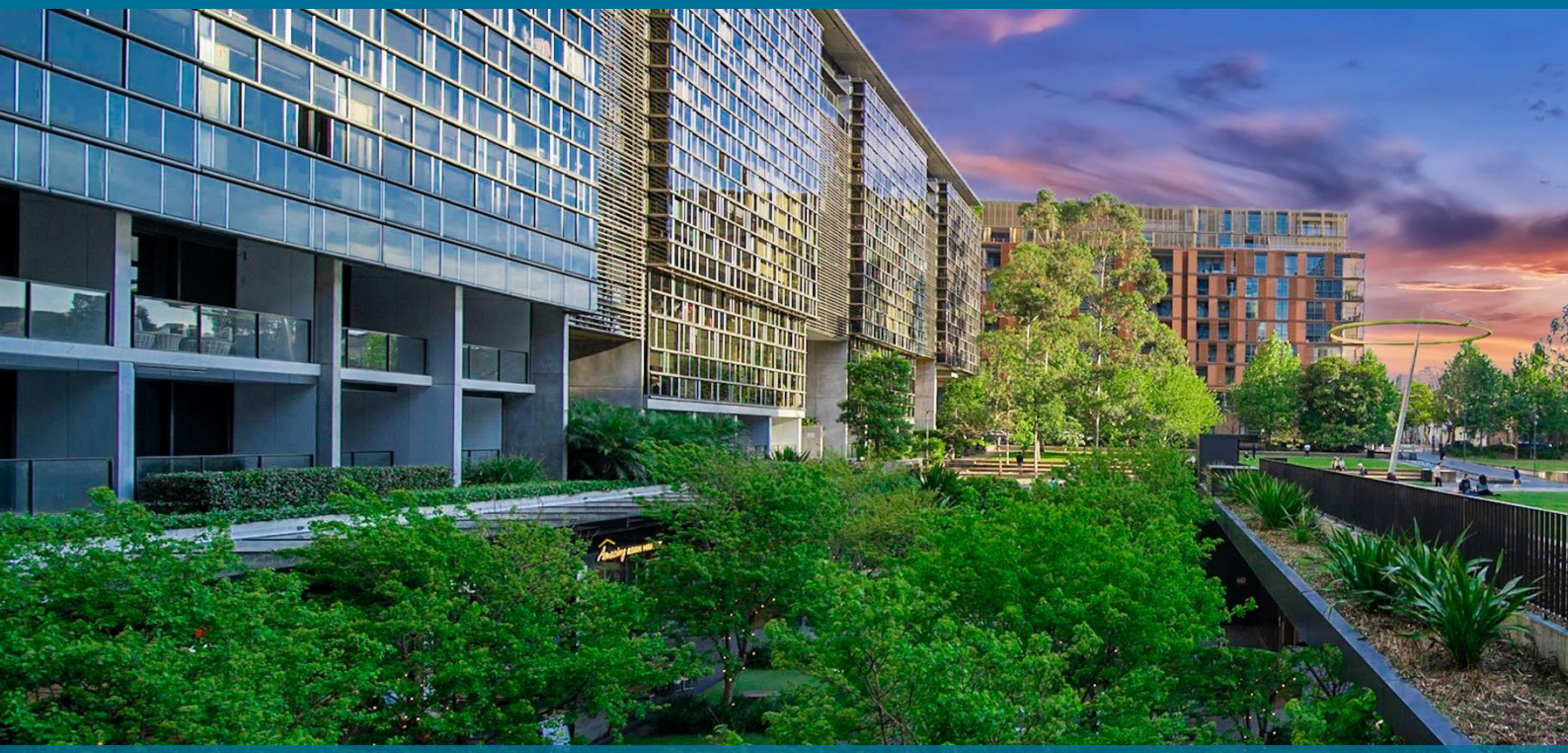

Cover photo: Building next to Central Park, Sydney.

Disclaimer: This guidance document is not intended to mandate particular approaches, nor is it intended to close off avenues for banks to individually improve the quality and/or accuracy of their financed emissions calculation.

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INTRODUCTION

Purpose

Banks and other financial institutions are required to report on financed emissions, including those arising from lending and investment activities in commercial real estate. However, the availability of data regarding the emissions footprint of building assets is limited, resulting in the adoption of various estimation methods.

NABERS ratings offer a reliable and consistent way to measure scope 1 and 2 emissions at the asset level. However, not all buildings participate in NABERS. To address this, NABERS has created emissions intensity guidance for use in financed emissions calculations. This guidance provides a consistent data source for estimating the emissions footprints of buildings without a NABERS rating.

Audience

This document is primarily for financial institutions working to align with climate-related financial reporting frameworks.

Geographical scope

Using certified data from NABERS, average emissions figures are available for each State. These figures take into account variations in grid emissions intensity and climate zones.

National Greenhouse Accounts

The emissions and emission intensity values laid out in this document use 2024 NGA factors.

Building asset types and metric of emissions intensity

While maintaining accurate area information is standard practice in sectors like offices, shopping centres, and warehouses, it is often not systematically measured and stored in many other sectors. Therefore, energy intensity metrics are expressed in MJ/m^2 for sectors with high-quality area records, while an alternative size metric is used for sectors without such records.

Emission intensity values included in this document are for;

- Apartment buildings[1] (kg CO2-e/apartment)
- Hotels (kg CO2-e/guest room)
- Offices (base building) (kg CO2-e/m2)
- Offices (whole building) (kg CO2-e/m2)
- Residential aged care (kg CO2-e/OBD)
- Retirement living (kg CO2-e/dwelling)
- Shopping centres (kg CO2-e/m2)
- Warehouses[2] (kg CO2-e/m2).

Review frequency

NABERS will review this document in response to market need with the first review scheduled for October this year.

[1] Common area only and does not include the emissions/energy associated with individual units.
[2] This does not include warehouses that have cold storage.

02.

AVERAGE EMISSION INTENSITY

Apartment buildings

State	Postcode	Annual GHG emissions (scope 1 & scope 2) (kg CO2-e)	Annual GHG Intensity (scope 1 & scope 2) (kg CO2-e/apartment)
NSW	2000	600136	3209
QLD	4000	642440	3436
VIC	3000	693205	3707
SA	5000	236321	1264
WA	6000	557832	2983
ACT	2600	600136	3209
NT	0800	515528	2757
TAS	7000	168634	902

Table 1: Average scope 1 & 2 emissions and emission intensity for apartment buildings (common property) with 30% buffer applied.

Hotels

State	Postcode	Annual GHG emissions (scope 1 & scope 2) (kg CO2-e)	Annual GHG Intensity (scope 1 & scope 2) (kg CO2-e/guest room)
NSW	2000	1877540	7889
QLD	4000	2174741	9138
VIC	3000	2084358	8758
SA	5000	794577	3339
WA	6000	1695953	7126
ACT	2600	1853967	7790
NT	0800	2246023	9437
TAS	7000	606484	2548

Table 2: Average scope 1 & 2 emissions and emission intensity for hotels with 30% buffer applied.

Office base building

State	Postcode	Annual GHG emissions (scope 1 & scope 2) (kg CO2-e)	Annual GHG Intensity (scope 1 & scope 2) (kg CO2-e/m2 NLA)
NSW	2000	701953	56
QLD	4000	883662	70
VIC	3000	498380	40
SA	5000	192933	15
WA	6000	567506	45
ACT	2600	428816	34
NT	0800	878672	70
TAS	7000	126130	10

Table 3: Average scope 1 & 2 emissions and emission intensity for office base buildings.

Office whole building

State	Postcode	Annual GHG emissions (scope 1 & scope 2) (kg CO2-e)	Annual GHG Intensity (scope 1 & scope 2) (kg CO2-e/m2 NLA)
NSW	2000	478956	124
QLD	4000	489915	127
VIC	3000	394761	102
SA	5000	133542	35
WA	6000	358170	93
ACT	2600	398296	103
NT	0800	402952	104
TAS	7000	89200	23

Table 4: Average scope 1 & 2 emissions and emission intensity for office whole buildings.

Residential aged care

State	Postcode	Annual GHG emissions (scope 1 & scope 2) (kg CO2-e)	Annual GHG Intensity (scope 1 & scope 2) (kg CO2-e/OBD)
NSW	2000	695684	19
QLD	4000	699657	19
VIC	3000	792904	21
SA	5000	391082	11
WA	6000	671775	18
ACT	2600	795179	21
NT	0800	575932	16
TAS	7000	378474	10

Table 5: Average scope 1 & 2 emissions and emission intensity for residential aged care with 30% buffer applied.

Retirement living

State	Postcode	Annual GHG emissions (scope 1 & scope 2) (kg CO2-e)	Annual GHG Intensity (scope 1 & scope 2) (kg CO2-e/dwelling)
NSW	2000	126496	904
QLD	4000	116272	831
VIC	3000	208574	1490
SA	5000	70531	504
WA	6000	119507	854
ACT	2600	213888	1528
NT	0800	77519	554
TAS	7000	58029	414

Table 6: Average scope 1 & 2 emissions and emission intensity for retirement living with 30% buffer applied.

Shopping centres

State	Postcode	Annual GHG emissions (scope 1 & scope 2) (kg CO2-e)	Annual GHG Intensity (scope 1 & scope 2) (kg CO2-e/m2 GLAR)
NSW	2000	4732588	72
QLD	4000	5901388	89
VIC	3000	4798267	73
SA	5000	1568481	24
WA	6000	4090949	62
ACT	2600	4203760	64
NT	0800	7140468	108
TAS	7000	1098347	17

Table 7: Average scope 1 & 2 emissions and emission intensity for shopping centres with 30% buffer applied.

Warehouses

State	Postcode	Annual GHG emissions (scope 1 & scope 2) (kg CO2-e)	Annual GHG Intensity (scope 1 & scope 2) (kg CO2-e/ m2 GFA)
NSW	2000	481315	24
QLD	4000	517575	26
VIC	3000	561166	28
SA	5000	170820	9
WA	6000	445168	22
ACT	2600	481315	24
NT	0800	409067	21
TAS	7000	113816	6

Table 8: Estimated average scope 1 & 2 emissions and emission intensity for warehouses with 30% buffer applied. These results are based on warehouses without cold storage.

03.

APPENDIX

This appendix provides supplementary information to support the main text of this document. It includes calculation methodology, additional tables, extended explanations of key concepts and a glossary of terms and abbreviations.

1. Calculation methodology

1.1 Data sources

The average emissions intensity for each commercial building type is calculated using the FY23/24 NABERS public and private rating database. If the dataset contains fewer than 100 data points, additional years and/or benchmarking data are incorporated.

1.2 Calculation of emissions intensity

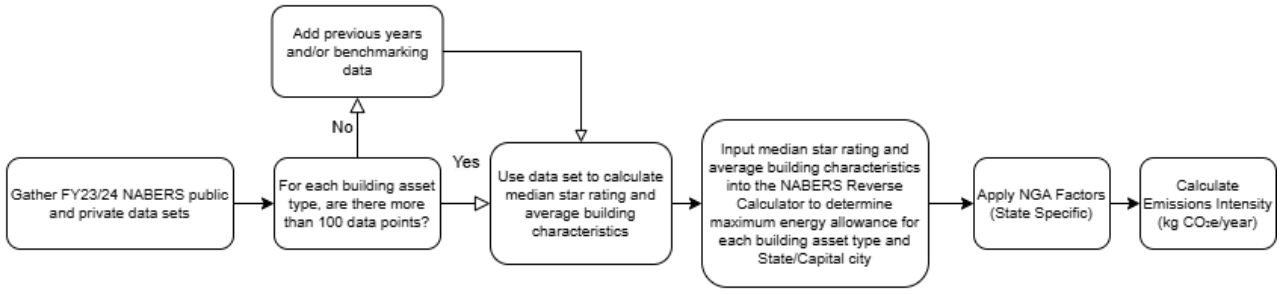
NABERS has estimated the maximum energy allowed for an average building to achieve the median star rating in each state. The median star rating varies by building asset type, and this calculation was performed for each state's capital city. The emissions are then calculated by multiplying the maximum energy by the 2024 NGA factors for each state.

1.3 Buffer to account for voluntary vs mandatory ratings

Participation in NABERS is mandatory for office buildings but remains voluntary for other types of building assets as of the publication date of this document. As a result, the data sets for non-mandated building asset types are likely to be skewed towards higher performing buildings and are unlikely to capture the full range of performance in a sector.

Therefore, the methodology to calculate emission intensity values for non-mandated sectors includes a buffer of 30%. The 30% was determined based on an analysis of mandatory disclosure for offices, where a consistent difference of around 30% in energy intensity was observed between voluntarily rated buildings and newly mandated rated buildings[3].

1.4 NABERS calculation process flowchart



[3] Source: Life of Program Statistics - improvement in average energy intensity, NABERS Annual Report 2023-2024

2. Climate zones

The NGA Emission factors are the same for whole states, regardless of exactly where they are in them. However, many Australian states have different climate zones within them, which can result in differences in how much energy buildings might use in different locations within a state.

For simplicity, these averages have been calculated for buildings in each state's capital city, which account for a large portion of buildings in many of these sectors.

3. Median star rating and average building characteristics

The data below shows the median star rating and average building characteristics for each building type. This information comes from NABERS data sets, using the method described earlier in this document. To avoid underestimating, conservative methods were used to determine building services and characteristics. For instance, high-emission services were chosen over those with lower emissions. For example, for residential aged care, heavy laundry onsite was selected. Or, for apartment buildings, heated pools was selected.

3.1 Apartment buildings

NABERS Energy for Apartment Buildings considers energy usage (paid for by the owners corporation) within the common property areas of your building. This includes (but is not limited to): lifts and lobby areas, car parks, gyms, pools and water features.

Note: The rating does not include the energy consumption of individual residences.

For more details see the rules - NABERS Energy and Water for Apartment Buildings Rules | NABERS

Apartment building	
Median star rating	3.5
Total number of Apartments	187
Centrally Air-conditioned apartments	8
Condenser water serviced apartments	70
Lift Serviced apartments	181
Pool (heated)	yes
Gym	yes
Months pool available	11
Months gym available	11
Mech ventilated car spaces	142
Naturally ventilated car spaces	68
Electricity %	79
Gas %	21
Diesel %	0

3.2 Hotels

NABERS Energy for Hotels considers factors that are unique to these facilities such as the quality star rating and occupancy fluctuations and includes (but is not limited to): car parks, laundries, function and conference rooms, spas and saunas, indoor/outdoor swimming pools, restaurants and cafes and gyms.

For more details see the rules - NABERS Energy and Water for Hotels Rules | NABERS

Hotel	
Median star rating	4
Quality Star Rating	4
Guest Rooms	238
Laundry Serviced Rooms	9
Function Room Seats	280
Area of heated pools (m2)	34.9
Electricity %	63
Gas %	37
Diesel %	0

3.3 Offices

NABERS Energy for Offices considers the efficiency of an office building.

Base building Energy rating: occurs when central services like heating and cooling systems, lifts and lobby lighting are rated.

Whole building Energy rating: this rates the base building and tenant occupied space. This usually occurs when there is a single tenant occupying an entire building.

For more details see the rules - NABERS Energy and Water for Offices Rules | NABERS

Office Base Building	
Median star rating	5
Rated Area (NLA m2)	12612.6
Rated Hours	51
Electricity %	74
Gas %	25
Diesel %	1

Office Whole Building	
Median star rating	4.5
Rated Area (NLA m2)	3868.6
Rated Hours	48.7
Computer Count	185
Electricity %	92
Gas %	8
Diesel %	0

3.4 Residential aged care

NABERS Energy for Residential Aged Care considers the energy usage within the common property areas of a building. This includes (but is not limited to): occupied bed days, heavy laundry processed on site, meals cooked and heated pools.

For more details see the rules - NABERS Energy and Water for Residential Aged Care and Retirement Living Rules | NABERS

Residential aged care	
Median star rating	3.5
Heavy Laundry onsite	Yes
Occupied Bed Days (OBD)	37118
Heated Pool	0
Hot Meals for Non Residents	0
Electricity %	62
Gas %	38
Diesel %	0

3.5 Retirement living

NABERS Energy for Retirement Living considers energy usage within the common property areas of a building. This includes (but is not limited to): number of dwellings on site, serviced apartments on site, retirement village site area, heated / unheated pool.

For more details see the rules - [NABERS Energy and Water for Residential Aged Care and Retirement Living Rules | NABERS]

Retirement Living	
Median star rating	2.5
Number of dwellings	140
Centrally Serviced apartments	12
Total rated site area (m2)	53710
Heated pool area (m2)	34
Unheated Pool	0
Meals cooked on-site	86
Electricity %	77
Gas %	23
Diesel %	0

3.6 Shopping centres

NABERS Energy for Shopping centres considers services provided by the shopping centre owner to retail tenants and the associated back-of-house requirements. This includes (but is not limited to): all services provided to common areas, air-conditioning services provided to tenants, services provided to car park and all vertical transportation located within common area.

Note: The rating does not include tenancy energy use for light and power.

For more details see the rules - NABERS Energy and Water for Shopping Centres Rules | NABERS

Shopping centre – Multi-storey	
Median star rating	4.5
Rated area (GLAR m2)	66110
Centrally serviced area (GLAR m2)	26912
Annual trading days	362
Rated hours	61.4
Mech ventilated car spaces	776
Naturally ventilated car spaces	1859
Electricity %	90
Gas %	10
Diesel %	0

3.7 Warehouses (without cold storage)

NABERS Energy for Warehouses considers energy usage of a warehouse including (but is not limited to): conditioned area, non – conditioned area, weekly operating hours, number of full-time equivalent workers (FTE) and annual turnover ratio (ATR).

Note: The warehouses and cold stores rating tool is primarily targeted at facilities with logistics and distribution functions. As such, the energy associated with transforming goods from one state to another is not part of the rating's minimum energy coverage.

For more details see the rules - NABERS Energy for Warehouses and Cold Stores Rules | NABERS

Warehouses	
Median star rating	3
FTE / ATR	FTE
Warehouse has cold store	No
Total Gross Lettable Area (GLA m2)	19844.02
Conditioned GLA (m2)	1872.7
Non-conditioned GLA (m2)	14171
Hours per week	82.93
FTE workers per annum	100.55
Electricity %	97
Gas %	2
Diesel %	1

4. Glossary of terms and abbreviations

Term or abbreviation	Definition
ATR	Annual turnover ratio
Apartment	A self-contained unit of accommodation comprising kitchen, sleeping, living and bathroom facilities within a building that contains many such residential dwellings
Dwelling	Either a townhouse, villa, independent living apartments, or centrally serviced apartments as defined in the Rules.
FTE	full-time equivalent (FTE) workers
GHG	Greenhouse gas
GLA	Gross Lettable Area
GLAR	Gross Lettable Area Retail
Guest room	An individual hotel room or suite (with multiple rooms) available for individual sale by a single group of guests. This room may contain any number of beds, but these cannot be purchased separately by multiple unassociated guests, as this would be the case for a dormitory.
NGA	National Greenhouse Accounts
NLA	Net Lettable Area
OBD	Occupied Bed Days

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