

Ruling:

Shared Services for Mixed-use Buildings

December 2015

1 Purpose and Principle

This methodology is designed for mixed-use buildings that incorporate a number of different uses, including office, hotel, retail, residential and other miscellaneous areas. The purpose of this methodology is to apportion energy and water used in shared services within a mixed use building. The principles used to guide the methodologies are:

- Performance – NABERS is based on metering data and utility bills. Apportionments should be based on actual use from metered data.
- Equity – NABERS compares buildings on the same basis using the same minimum energy and water coverage and boundaries for meaningful comparison.
- Fairness – Apportionment is fair for all sections of the building where energy or water is allocated.
- Simplicity – The methodologies are simple where possible, avoiding complex and time consuming methodologies where impacts on accuracy are limited.

2 Scope

This methodology applies to and should be read in conjunction with the current and relevant Rules and Rulings applicable to the Rating. This includes:

- NABERS Energy and Water Rules for Collecting and Using Data for Offices;
- NABERS Energy and Water Rules for Collecting and Using Data for Hotels;
- NABERS Energy and Water Rules for Collecting and Using Data for Shopping Centres;

This methodology is applicable to single buildings that have two or more sections that share services but are used for different purposes. This may include but not limited to a mix of office, retail, hotel and residential sections.

The shared services covered in this methodology are:

- Car parks
- Vertical transportation (lifts)
- Swimming pools
- Gyms
- Foyers, lobbies and shared areas
- Restaurants
- Exterior lighting and externally lit signage

2.1 Threshold

There is a threshold for the size of the other sections of the building for when this Ruling can be applied.

When conducting a rating, another section of the building must be at least 20% of the total area of the building to apportion energy and water using this methodology. Sections smaller than 20% are not considered when apportioning energy and water from a shared service.

3 Floor Area

Area is used as the key variable in apportioning energy and water through this ruling.

In buildings where it is only office and retail space, NLA and GLAR must be used for apportionment.

Where there are sections of a building that does not use either of these measurement standards, such as a hotel or residential apartments, Gross Floor Area (GFA) may be used.

4 Shared Services

4.1 Car parks

A car park may be used by a number of different sections of a building. The energy used within a car park is apportioned either on the number of spaces allocated to sections or by the relative sizes of the sections that have access to the car park.

The objective is to capture the portion of energy used to provide car parking to each section of the building.

The energy used for lighting, ventilation, and other equipment related to the operation of the car park (such as ticket machines and boom gates) to be apportioned must be sub-metered.

Office sections use the *NABERS Energy and Water for Offices: Rules for collecting and using data* for apportioning energy.

Shopping Centres and Hotels using the following method:

The energy use associated with this equipment can be apportioned to each section of the building that uses the car park in accordance with the following rules:

1. Where a commercial agreement, such as a lease, assigns a proportion of the measured car park energy use, then the share(s) specified in the documentation must be used in the assessment.
2. Where a section is allocated a number of car spaces or pass cards/keys, the relevant proportion is calculated by dividing the number of parking spaces allocated to the section by the total number of parking spaces.

Where pass cards or keys have been issued to a section, the number of parking spaces allocated to that section is the greater of:

- a. the number of physically dedicated parking spaces, and
- b. the number of pass cards or keys issued (to a limit of the total number of parking spaces).

Dedicated parking space, pass or key allocation data must be sourced from third party commercial agreements.

3. Where the rated section of the building does not have allocated car parks, the energy use of the car park is apportioned based on the area ratio of that section to the rest of the building.

Car parks allocated to other sections of the building and the associated area of that section are not considered as part of this apportionment method. Apportion the car park energy use for those section using 4.1/2 and further apportion the remaining energy use using 4.1/3.

4. If there is no documentation and no third parties are able or willing to identify proportions, then all of the energy use associated with the car park must be included in the assessment.

4.1.1 Loading docks

Loading docks are often integrated in a car park and their energy cannot be separately sub-metered. In these cases, the combined energy use of the car park and loading docks should be apportioned in line with the provisions of Section 4.1 above.

Where loading docks have their own lighting and ventilation services that are sub-metered, the metered energy use can be allocated on the area of the sections that use the dock.

4.2 Vertical Transport

Vertical transport may be shared between sections that use a common lift bank or are connected by escalators. Vertical transport may only be apportioned where there are common lifts or escalators connecting the sections within the building.

The objective is to capture the portion of energy used to provide access to each section.

The energy used by a common lift bank may be apportioned on the ratio of the area of the Rated Premises against the total area served by the common lifts. The area of the entry level floor(s) to the building is always excluded from this calculation.

The energy use associated with the vertical transport that is to be apportioned must be sub-metered.

4.3 Swimming Pools

A swimming pool in a mixed-use building may be accessed and shared by occupants from different sections. Energy and water use associated with a swimming pool is apportioned based on whether occupants have access to the pool even if they opt not to use it.

The objective is to capture the portion of energy and water used in the provision of swimming pool facilities for each section.

All water and energy use for the swimming pool must be allocated to a section of the building. Energy and water use is apportioned on the ratio of the area for the sections whose occupants have access to the pool.

The energy and water use associated with pool facilities that is to be apportioned must be sub-metered.

There is no allowance or exclusion of energy and water use for pool facilities that also has public access.

4.4 Gyms

A gym in a mixed-use building may be accessed by occupants from different sections. Energy and water use associated with a gym is apportioned based on whether occupants have access to the gym even if they opt not use it.

The objective is to capture the portion of energy used in the provision of gym facilities for each section.

The energy and water use associated with the gym that is to be apportioned must be sub-metered.

Gym facilities with public access located in the retail section of a mixed-use building are considered a retail tenancy. The energy and water use is not apportioned.

If a Hotel gym is share with other users within the building, then the energy and water use is apportioned on the ratio of the area for the sections whose occupants have access to the gym.

4.5 Foyers, Lobbies and Common Spaces

A mixed-use building may have common entry points, foyers, lobbies, walkways and other areas that are used by several or all of the sections of the building. Energy and water use associated with these common spaces may only be apportioned between the areas that use the spaces for access.

The objective is to capture the portion of energy and water used in the provision of services to shared common spaces.

Energy used by common spaces is allocated using the following methodology:

- Identify all foyer, lobby, walkway and common indoor areas. All common spaces, including foyer and lift lobby areas are allocated as shared.
- All walkway areas connected to a building entrance on the same level as the common foyer and lift lobbies are allocated as shared.
- Lift lobbies and foyers on floors dedicated to a section are allocated to that section, even if they are accessible by occupants from other sections. For example, a lift lobby on a floor dedicated to retail is allocated to the retail section.

Energy and water use associated with shared areas are apportioned to sections that share them based on the ratio of the area.

The energy and water use associated with the provision of services to common spaces that is to be apportioned must be sub-metered.

4.6 Exterior Lighting and External Signage

A mixed-use building may have exterior lighting and lit external signage that may be for the benefit of the building owners or the occupants.

The objective is to capture the energy used in providing external lighting and signage for those that benefit from it.

The energy used by exterior lighting and signage is allocated using the following methodology:

- Identify all exterior lighting and externally lit signage. All exterior lighting is considered to be shared.
- External signage dedicated to one or more specific sections within a building is considered to be shared among such sections. This may be one or more sections.
- External signage where the building owner's name appears in the signage is considered to be shared.

Energy use in shared lighting is apportioned based on the ratio of the section's respective area.

The energy use associated with the external lighting and signage that is to be apportioned must be sub-metered.

The portion of energy used for external signage allocated to an office section of a building still follows the normal rules for allocation to either the base building or tenancy as per the relevant section in the *NABERS Energy and Water Rules for Collecting and Using Data for Offices*. This may result in the apportionment being apportioned further. This is fine so long as it follows the Rules and the Assessor keeps clear documentation on assumptions and methodologies.

4.7 Restaurants

Restaurants and cafes in a mixed-use building may be shared by a number of the sections within a building with charge to room facilities available where there is a hotel.

The objective is to define the restaurants that primarily service the hotel and those that are simply located within the building. The energy and water use within a restaurant is not apportioned.

A restaurant is allocated to the hotel and included in the minimum energy and water coverage if:

- The restaurant is part of the typical breakfast package for the hotel; or
- The restaurant is part of the hotel's exclusive club.

4.8 Exclusive Hotel Clubs

Restaurants and cafes in a mixed-use building may be shared by a number of the sections within a building with charge to room facilities available where there is a hotel.

The energy and water use associated with the club may be apportioned based on the area ratio of those sections that share membership benefits if the club offers memberships to other sections of the building. For example, a residential section of the building may also have access to the club.

4.9 Hotel Rooms

Hotel rooms over 200 m² are considered to be abnormally large even for a 5 Star accredited hotel by Star Ratings Australia. Rooms of this size may be excluded from a hotel rating. This will exclude both the room count and any water and energy use associated with the rooms (such as the power, lighting, air conditioning and private room pools).

Hotel rooms measuring 200 m² or under are considered as hotel rooms under the *NABERS Energy and Water for Hotels: Rules for collecting and using data*.

Services that are shared between these hotel rooms over 200 m² and the rest of the building are apportioned as detailed in the Shared Services for Mixed-use Buildings.

Any exclusions must be sub-metered.

4.10 Metering

All metering arrangements/configurations must meet the requirements of the NABERS Rules that are relevant for the building type being rated. This includes validation and ensuring the relevant minimum energy coverage for sections are met.

The sub-metering of energy use to be apportioned may not include other energy end uses because these end uses will also be apportioned. The result is the minimum energy coverage is not met.

For example, in a car park, the sub-meter measuring the lighting and ventilation energy should not include other uses, such as a lift that services the car park. This will apportion the lift energy use as well, which does not meet the minimum energy coverage.

The sub-metering of energy to be apportioned does not need to include all the energy that should be apportioned with the methodologies. All of the energy that is not sub-metered is to be included in the rating to meet the minimum energy coverage.

For example, in a car park, the lighting energy use is sub-metered but the ventilation energy use is not. The lighting component can be apportioned, however all of the ventilation energy use is to be included to meet the minimum energy coverage.

4.11 Documentation

All documentation must be retained for the rating period as per a NABERS Rating. Additional documentation required to comply with this ruling includes:

- Floor plans / schedules with the area for all sections included in the apportionment calculation. They should be marked up showing relevant areas (common space etc) and what the area is (office, retail, hotel, etc).

- Documentation defining what each section is.
- Acceptable data for hours if used in weighting the area.
- All calculations, with notations that can be followed by an auditor, demonstrating how all apportionment figures are calculated.

All methodologies for shared services outlined in this Ruling are considered to be acceptable estimates and are not added to the Potential Error for the rating. Alternative methodologies may be accepted but may be added to the Potential Error.

5 Examples

5.1 Floor Area Examples

The building in this example has a total area of 16,000 m² broken down as follows:

Section type	Area (m ²)
Ground floor common space	500
Common plant rooms	500
Office (NLA)	4,000
Hotel	3,500
Retail (GLAR)	1,500
Residential	6,500
Total	16,500

5.1.1 Vertical Transport

There is a common bank of lifts that service the office, hotel and retail sections. To apportion the lift energy use, the lifts need to be sub-metered. The metering is compliant so the lift energy use can be apportioned based on the area of the spaces.

Step 1: Sum the area of the spaces serviced by the lift that are greater than 20% of the total area. The retail is smaller than 20% so energy cannot be apportioned to it.

$$\begin{aligned} \text{Sum} &= 4,000 \text{ (office)} + 3,500 \text{ (hotel)} \\ &= 7,500 \text{ m}^2 \end{aligned}$$

Step 2: Determine the percentage of the area for each space.

$$\begin{aligned} \text{Office} &= 4,000 / 7,500 &= 53\% \\ \text{Hotel} &= 3,500 / 7,500 &= 47\% \\ \text{Retail} &&= 0\% \end{aligned}$$

Step 3: Apportion the energy use by multiplying the total energy used by the lift bank by the percentage.

If compliant metering is not in place, the total lift energy use would need to be allocated to each section to meet the minimum energy coverage.

5.1.2 Pool

There is a swimming pool in the building that the residents and guests of the hotel have access to. Apportioning the pool between residents and hotel's guests using area. The metering is compliant.

Section	Area (m ²)	Energy & Water Allocation (%)
Hotel	3,500	35%
Residential	6,500	65%
Total	10,000	100%

The total energy and water used by the facilities is multiplied by 35% to determine the amount of water and energy allocated to the hotel.

If compliant metering was not in place, the hotel would be required to include the total energy of the pool facilities as part of the minimum energy coverage.

5.1.3 Common spaces

The services to the ground floor common spaces can be apportioned among the sections of the building that use the common space. All metering is compliant.

Section type	Area (m ²)	Treatment
Ground floor common space	500	Excluded: The common space being apportioned is not counted in the calculation.
Common plant rooms	500	Excluded: This is a common plant room. Dedicated plant rooms would be included in the section's area.
Office (NLA)	4,000	Included: Access to this section is through the common space being apportioned.
Hotel	3,500	Included: Access to this section is through the common space being apportioned.
Retail (GLAR)	1,500	Excluded: The retail does not meet the 20% area threshold.
Residential	6,500	Included: Access to this section is through the common space being apportioned.
Total	16,500	

Section type	Area (m²)	Allocation (%)
Office (NLA)	4,000	29%
Hotel	3,500	25%
<i>Retail (GLAR)</i>	<i>0</i>	<i>0%</i>
Residential	6,500	46%
Total	14,000	100%

The energy use of the common space could then be multiplied the allocation percentage for ratings.