

# Energy Efficiency Changes to NCC 2022

## Increase in thermal performance (Star rating)

| Measure   | What's likely to be involved?  |
|---|--|
| Increase in thermal performance from the current level, equivalent to 6 Star NatHERS, to the equivalent of 7 Stars. | <ul style="list-style-type: none"><li>• Higher window and door glazing performance</li><li>• Increases in ceiling and wall insulation R-values</li><li>• Restrictions on wall and roof colours</li><li>• Changes to structural floor systems (insulated slabs or sub-floor insulation.</li></ul> |

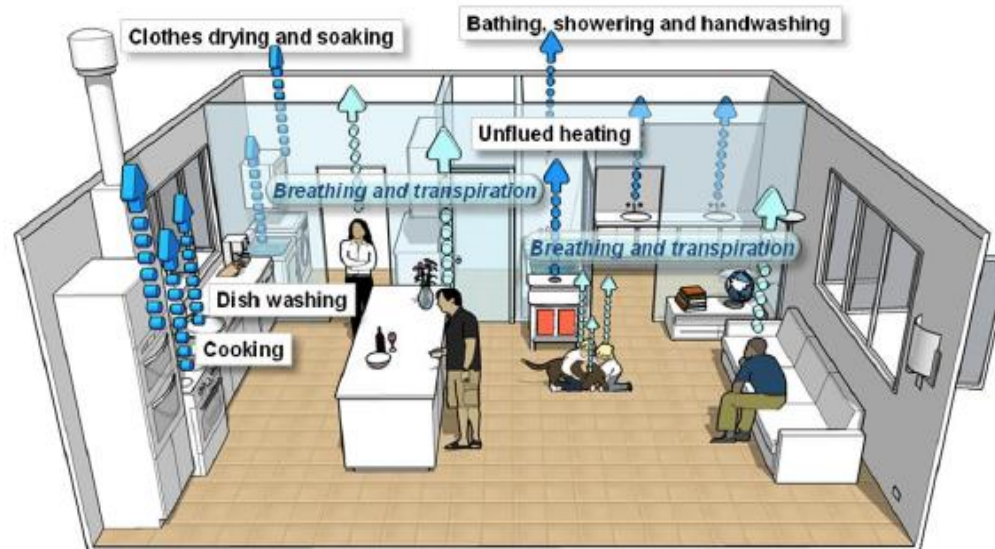
# Whole of home energy use requirements

| Measure  | What's likely to be involved?   |
|--|---|
| Whole of home annual energy use requirements. Different between Class 1 and Class 2 Buildings. | <p>Introduction of a collective energy use budget for;</p> <ul style="list-style-type: none"><li>• Air conditioning and heating systems</li><li>• Hot water systems</li><li>• Lighting</li><li>• Swimming pool and spa pumps</li></ul> <p>Ability to trade between the efficiency of systems for annual energy use budget.</p> <p>Onsite renewables may be installed to offset the energy consumption of the equipment but not the building fabric.</p> |

# Trends in Energy Efficiency

## Condensation

- Importance of building wrap,
  - correct material (AS/NZS 4200.1:2017)
  - Installed correctly (AS/NZS 4200.2:2017)



## Condensation in buildings



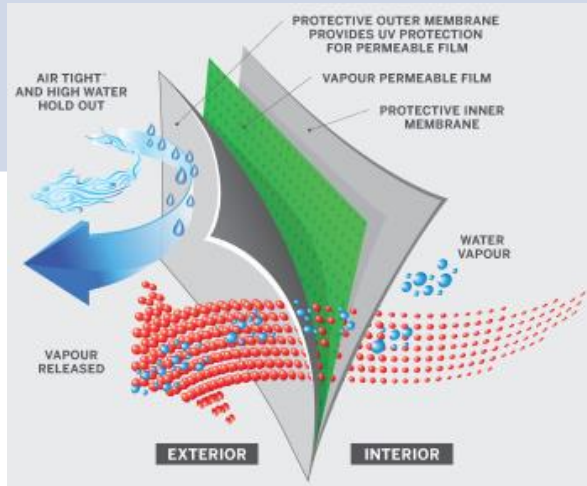
[abcb.gov.au](http://abcb.gov.au)

# Condensation management measures

## Measure

Enhanced condensation management provisions.

NCC 2019 introduced specific condensation management for the first time. For NCC 2022 more substantive measures are being proposed.



## What's likely to be involved?

Changes to wall sarking requirements to more vapour permeable types equivalent to Class 3 or 4 membranes for climate zones 4 to 8.

Ventilating roof spaces that include;

- Providing air spaces for roofs
- Changes to roof sarking installation and roof sarking vapour permeability requirements.
- Additional roof space ventilation via installation of whirlybirds, ridge or eave vents or similar.

TABLE 4  
VAPOUR CONTROL MEMBRANE (VCM) CLASSIFICATION

| Vapour permeance (see Note)<br>µg/N.s |                  |          |          |
|---------------------------------------|------------------|----------|----------|
| Class                                 | VCM category     | Min. (≥) | Max. (<) |
| Class 1                               | Vapour barrier   | 0.0000   | 0.0022   |
| Class 2                               |                  | 0.0022   | 0.1429   |
| Class 3                               | Vapour permeable | 0.1429   | 1.1403   |
| Class 4                               |                  | 1.1403   | No max.  |

ASTM-E96 Method B Wet Cup—23°C 50%RH

NOTE: Vapour permeance is the inverse of vapour resistance. It shall be calculated as follows:

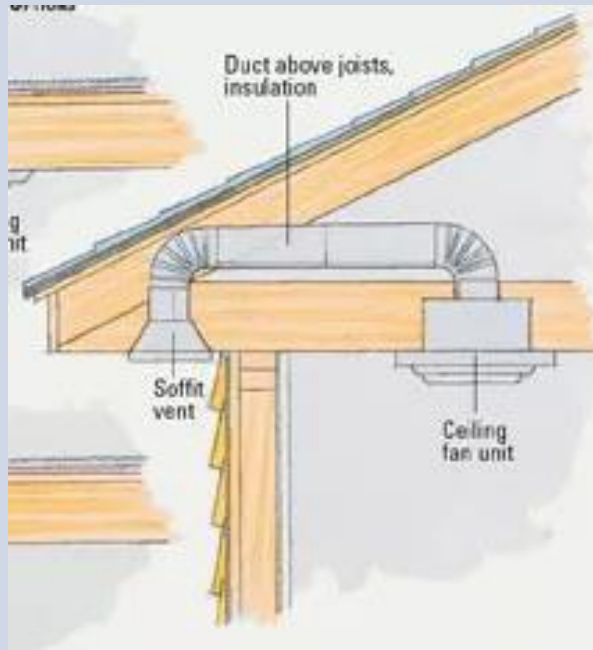
$$\text{Vapour permeance } \mu\text{g/N.s} = 1 / (\text{Vapour resistance MN.s/g})$$

# Condensation management measures

## Measure

## What's likely to be involved?


Enhanced condensation management provisions.



Exhaust system changes including;

- Minimum flow rates for exhaust fans
- Mandatory exhaust and ducting to the outside for exhaust fans and rangehoods
- Banning recirculating rangehoods
- Bathrooms not naturally ventilated must have exhaust fans with 10 minute runoff timer and
- Additional provision for ventilation to laundries/bathrooms containing a dryer.

## New deemed to satisfy elemental provisions (Class 2)

| Measure   | What's likely to be involved?  |
|---|--|
| <p data-bbox="86 421 828 628">New set of deemed to satisfy elemental provisions for Class 2 Buildings.</p>  | <ul data-bbox="840 421 2469 1322" style="list-style-type: none"><li>• The whole of the apartment building will need to achieve an average 7-Stars with no apartment permitted to be less than 6-Stars (under NCC 2019 6-Star average and no apartment less than 5-Stars).</li><li>• Developing new elemental DTS provisions for Class 2 buildings set at 7-Star equivalence (this will provide a second pathway for apartments to verify compliance after this option was removed in NCC 2010).</li><li>• Developing a new verification using reference building method for Class 2 buildings</li><li>• Introducing new requirements for thermal bridging and steel framing.</li></ul> |



## Retrofit onsite renewables & vehicle charging (Class 2)

### Measure

New provisions designed to allow easy retrofit of onsite renewable and electric vehicle charging equipment for Class 2 to 9 Buildings.

### What's likely to be involved?

New provisions designed for 'solar ready' zones for potential future installation of electric vehicle charging equipment for Class 2 to 9 buildings.

