Australian Capital Territory

Energy Efficiency (Cost of Living) Improvement (Eligible Activities) Determination 2023

Disallowable instrument DI2023–299

made under the

Energy Efficiency (Cost of Living) Improvement Act 2012, s 10 (Eligible activities)

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1 Name of instrument

This instrument is the *Energy Efficiency (Cost of Living) Improvement (Eligible Activities) Determination 2023.*

2 Commencement

This instrument commences on the day after notification.

3 Determination of eligible activities

I determine that the activities described in schedule 1 are eligible activities.

4 Disapplication of Legislation Act, s 47 (5) and (6)

The *Legislation Act 2001*, section 47 (5) or (6) does not apply in relation to an instrument applied, adopted or incorporated under this instrument.

Note 1 Australian Standards are available for purchase, and in some circumstances are available for free with an account, at www.standards.org.au.

Note 2 A copy of the National Construction Code, which incorporates the Building Code of Australia and the Plumbing Code of Australia, is freely available for inspection at www.abcb.gov.au.

5 Revocation

This instrument revokes the *Energy Efficiency (Cost of Living) Improvement (Eligible Activities) Determination 2022 (No 2)* (DI2022-244).

Shane Rattenbury MLA
Minister for Water, Energy and Emissions Reduction

10 December 2023

Schedule 1
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1. Residential building envelope activities

1.1. Building sealing activities

1.1.1. Activity definition

In accordance with the prescribed minimum activity performance specifications, restrict pre-existing air infiltration into, or air leakage out of, a premises by installation of fixed sealing to one or more of—

(a) **Activity ID 1.1(a)** – the gaps between an external door leaf and the door frame and floor when the door is closed;

(b) **Activity ID 1.1(b)** – the gaps between an openable window sash and the window frame when the window is closed;

(c) **Activity ID 1.1(c)** – the outlet of a ducted evaporative cooling system located in a heated area of the dwelling on a temporary or seasonal basis in the form of a product designed to cover the ceiling outlet.

1.1.2. Minimum activity performance specifications

To be an eligible activity, a building sealing activity must—

(a) be undertaken at eligible residential premises;

(b) be undertaken using a product or products meeting the installed product requirements in section 1.1.3;

(c) be completed and certified in accordance with the relevant code or codes of practice and other relevant legislation applying to the activity, including any licensing, registration, statutory approval, activity certification, health, safety, environmental or waste disposal requirements; and

(d) be recorded in accordance with any relevant code of practice for the activity.

Note *All activities are subject to independent inspection or audit to confirm compliance with prescribed activity requirements.*

1.1.3. Installed product requirements

1.1.3.1. Door sealing

For Activity 1.1(a), a door sealing product or weather stripping product, or a kit comprising several such products, that—

(a) is designed to restrict the airflow into or out of the premises through gaps between an external door and the door frame and floor;

(b) is installed on an external door or the door frame so as to restrict airflow around the entire perimeter of the external door;

(c) the installation of which does not impair the normal operation of the door;

(d) is installed in accordance with the manufacturer's instructions;

(e) has a minimum warranty of five years; and

(f) is listed in the register of products for the activity.

1.1.3.2. Window sealing

For Activity 1.1(b), a window sealing product or weather stripping product, or a kit comprising several such products, that—

(a) is designed to restrict the airflow into or out of premises through an openable window and the window frame when the window is closed;

(b) is installed on an external window or the window frame so as to restrict airflow through the window;

(c) the installation of which does not impair the normal operation of the window;

(d) is installed in accordance with the manufacturer's instructions;

(e) has a minimum warranty of five years; and

(f) is listed in the register of products for the activity.

1.1.3.3. Ducted evaporative cooling outlet sealing

For Activity 1.1(c), a product that—

(a) is designed to be fitted to cover the ceiling outlet of a ducted evaporative cooling system on a temporary or seasonal basis, so as to restrict airflow from inside the residential premises into the evaporative cooling ductwork;

(b) has a minimum warranty of five years, and includes instructions on the installation and removal of the product and the time of year that the product should be installed and removed;

(c) is installed in accordance with the manufacturer's instructions; and

(d) is listed in the register of products for the activity.

1.1.4. Time the activity is taken to be completed

The activity is taken to be completed on the day all applicable prescribed activity requirements are completed.

1.1.5. Calculation of energy savings factor

The total energy savings factor in Megawatt-hours (MWh) saved for the activity is the sum of all energy savings factors for each item in the activity definition undertaken in the same premises, determined by using the equations prescribed in this section.

(a) For activity items in Activity 1.1(a) the energy savings factor is calculated as—

$$Energy\ Savings\ Factor\ (MWh) = ESF \times N$$

Where—

i. *ESF* is the relevant activity energy savings value prescribed for the activity item in Table 1; and

ii. *N* is the number of doors in the premises to which sealing has been installed.

(b) For activity items in Activity 1.1(b) the energy savings factor is calculated as—

$$Energy\ Savings\ Factor\ (MWh) = ESF \times m^2$$

Where—

i. *ESF* is the relevant activity energy savings value prescribed for the activity in table 1; and

ii. m^2 is the area of glazing in square meters, rounded to the nearest square centimetre, of all the window sashes, in the premises to which sealing has been installed and each window is counted once only.

(c) For activity items in Activity 1.1(c) the energy savings factor is calculated as—

$$Energy\ Savings\ Factor\ (MWh) = ESF \times N$$

Where—

i. *ESF* is the relevant activity energy savings value prescribed for the activity in table 1; and

ii. *N* is the number of activity items undertaken in the premises.

Table 1 Activity ID 1.1 energy savings values for building sealing activities

Activity ID	**Description**	**Energy Savings Factor (MWh)**
1.1(a)	For each door sealed with a product, or a kit comprising several such products, that has a minimum five-year warranty	2.116
1.1(b)	For each m^2 of openable window, the frame of which is sealed against the opening part using a product, or a kit comprising several such products, that has a minimum five-year warranty	0.531
1.1(c)	For each ducted evaporative cooler cover that has a minimum five-year warranty	1.233

1.2. Exhaust fan sealing activities

1.2.1. Activity definition

In accordance with the prescribed minimum activity performance specifications, restrict the air infiltration into, or air leakage out of, a premises by carrying out one or more of—

(a) **Activity ID 1.2(a)** – removing and decommissioning an exhaust fan that is not fitted with a self-closing sealing device and is installed in a ceiling or wall and replacing the removed exhaust fan with an exhaust fan fitted with a self-closing damper, flap, filter or other sealing product that allows airflow through the exhaust of the fan when the fan is operating, but restricts airflow when the fan is not operating;

(b) **Activity ID 1.2(b)** – fitting a product, being a self-closing damper, flap, filter or other sealing product that is designed to be fitted to an existing ceiling or wall exhaust fan so as to allow airflow through the exhaust of the fan when the fan is operating, but restrict airflow when the fan is not operating.

1.2.2. Minimum activity performance specifications

To be an eligible activity the exhaust fan sealing activity must—

(a) be undertaken at an eligible residential premises;

(b) be undertaken using a product or products meeting the installed product requirements in section 1.2.3;

(c) be completed and certified in accordance with the relevant code or codes of practice and other relevant legislation applying to the activity, including any licensing, registration, statutory approval, activity certification, health, safety, environmental or waste disposal requirements; and

(d) be recorded in accordance with any relevant code of practice for the activity.

Note *All activities are subject to independent inspection or audit to confirm compliance with prescribed activity requirements.*

1.2.3. Installed product requirements

1.2.3.1. Ceiling or wall exhaust fan

For Activity 1.2(a), an installed product must be a ceiling or wall exhaust fan that—

(a) expels air either outside or into the roof space of the premises;

(b) is fitted with a self-closing damper, flap, filter or other sealing product that allows airflow through the exhaust of the fan when the fan is operating, but restricts airflow when the fan is not operating; and

(c) has a minimum warranty of five years.

1.2.3.2. Self-closing damper, flap, filter or other sealing product

For Activity 1.2(b), an installed product must be a self-closing damper, flap, filter or other sealing product that—

(a) is designed to be fitted to an existing ceiling or wall exhaust fan so as to allow airflow through the exhaust of the fan when the fan is operating, but restrict airflow when the fan is not operating; and

(b) has a minimum warranty of five years.

1.2.3.3. Self-closing sealing device or existing exhaust fan

If the product is a self-closing sealing device to be fitted to an existing exhaust fan, it must—

(a) not interfere with the normal operation of the exhaust fan; and

(b) be compatible with the existing exhaust fan in accordance with the exhaust fan and sealing device manufacturer's specifications.

1.2.3.4. All installed products

For all activity items**,** an installed product must be a product that—

(a) complies with any product safety or other product performance requirements in a relevant code of practice or any other relevant legislation applying to the activity or product, such as prescribed articles of electrical equipment; and

(b) is listed on the register of products for the activity.

1.2.4. Time the activity is taken to be completed

The activity is taken to be completed on the day all applicable prescribed activity requirements are completed.

1.2.5. Calculation of energy savings factor

The total energy savings factor in Megawatt-hours (MWh) saved for the activity is the sum of all energy savings factors for each item in the activity definition undertaken in the same premises determined by using the equations prescribed in this section.

(a) For activity items in Activity 1.2(a) and 1.2(b) the energy savings factor is calculated as—

$$Energy\ Savings\ factor\ (MWh) = ESF \times N$$

Where—

i. *ESF* is the relevant activity energy savings value prescribed for the activity item in table 2; and

ii. *N* is the number of activity items undertaken.

Table 2 Activity ID 1.2 energy savings values for exhaust fan sealing activities

Activity ID	Description	Energy Savings Factor (MWh)
1.2(a)	Self-closing exhaust fan	1.399
1.2(b)	Fitting a self-closing damper to an exhaust fan	2.678

1.3. Ventilation opening sealing activities

1.3.1. Activity definition

In accordance with the prescribed minimum activity performance specifications, restrict the air infiltration into, or air leakage out of, a premises by carrying out one or more of—

(a) **Activity ID 1.3(a)** – installing a sealing product or products to permanently seal ventilation openings in an external wall, other than external wall openings to underfloor enclosures;

(b) **Activity ID 1.3(b)** – installing a damper or flap in a chimney or flue of an open solid fuel burning appliance that can be closed to seal the chimney or flue.

1.3.2. Minimum activity performance specifications

To be an eligible activity the ventilation opening sealing activity must—

(a) be undertaken at an eligible residential premises;

(b) be undertaken using a product or products meeting the installed product requirements in section 1.3.3;

(c) be completed such that when undertaken—

i. separately;

ii. in combination with another eligible activity or activities; or

iii. in association with other work in the premises;

the installation maintains natural air changes and ventilation at a rate that complies with the building code and other relevant legislation in force at the time of installation;

(d) for Activity 1.3(b), allow the safe and effective operation of the solid fuel burning appliance;

(e) be completed and certified in accordance with the relevant code or codes of practice and other relevant legislation applying to the activity, including any licensing, registration, statutory approval, activity certification, health, safety, environmental or waste disposal requirements; and

(f) be recorded in accordance with any relevant code of practice for the activity.

Note 1 Sealing of ventilation openings and installation of sealing to a chimney or flue of a solid fuel burning appliance are subject to obtaining any required building approvals.

Note 2 All activities are subject to independent inspection or audit to confirm compliance with prescribed activity requirements.

1.3.3. Installed product requirements

For Activity 1.3(a), an installed product must be a product suitable for sealing, or restricting air infiltration and leakage from a ventilation opening in an external wall.

For Activity 1.3(b), an installed product must be a product that is a damper or flap suitable for installation in the solid fuel burning appliance in which it is installed that can be closed to seal a chimney or flue chimney and can be opened to allow the safe and effective operation of the appliance.

For all activity items**,** an installed product must be a product that—

(a) complies with any product safety or other product performance requirements in a relevant code of practice or any other relevant legislation applying to the activity; and

(b) is listed on the register of products for the activity.

1.3.4. Time the activity is taken to be completed

The activity is taken to be completed on the day all applicable prescribed activity requirements are completed.

1.3.5. Calculation of energy savings factor

The total energy savings factor in Megawatt-hours (MWh) saved for the activity is the sum of all energy savings factors for each item in the activity definition undertaken in the same premises, determined by using the equations prescribed in this section.

(a) For Activity 1.3(a) and 1.3(b) the energy savings factor is calculated as—

$$Energy\ Savings\ factor\ (MWh) = ESF \times N$$

Where—

i. *ESF* is the relevant activity energy savings values prescribed for the activity item in table 3;

ii. for Activity 1.3(a), *N* is the number of vents sealed; and

iii. for Activity 1.3(b), *N* is the number of chimneys or flues in which a sealing product has been installed.

Table 3 Activity ID 1.3 energy savings values for ventilation opening sealing activities

Activity ID	Description	Energy Savings Value (MWh)
1.3(a)	Sealing ventilation openings in an external wall	0.536
1.3(b)	Install damper or flap to chimney or flue of an open solid fuel burning appliance	11.904

1.4. Install a thermally efficient window

1.4.1. Activity definition

Activity ID 1.4 – In accordance with the prescribed minimum activity performance specifications, installing high thermal performance glazing or glazed products in a window opening or openings in an external wall of a conditioned zone to replace existing single glazed window/s that does not meet the minimum thermal performance requirements in section 1.4.3, so that the glazing fills the entire window opening or openings.

1.4.2. Minimum activity performance specifications

To be an eligible activity the activity must—

(a) be undertaken at an eligible residential premises;

(b) be undertaken using a product or products meeting the installed product requirements in section 1.4.3;

(c) be completed and certified in accordance with the relevant code or codes of practice and other relevant legislation applying to the activity, including any licensing, registration, statutory approval, activity certification, health, safety, environmental or waste disposal requirements; and

(d) be recorded in accordance with any relevant code of practice for the activity.

Note *All activities are subject to independent inspection or audit to confirm compliance with prescribed activity requirements.*

1.4.3. Installed product requirements

An installed product must be a glazing product that—

(a) complies with the relevant performance requirements of AS 2047 and AS 1288;

(b) is a window product currently rated under the WERS scheme;

(c) has a maximum total Uw value of 4.0, as rated by WERS when calculated exclusive of window coverings;

(d) has a minimum solar heat gain co-efficient of 0.4, as rated by WERS;

(e) is fit for the purpose for which it is intended to be used;

(f) must be listed in the register of products; and

(g) complies with any product safety or other product performance requirements in a relevant code of practice or other relevant legislation applying to the activity.

1.4.4. Time the activity is taken to be completed

The activity is taken to be completed on the day all applicable prescribed activity requirements are completed.

1.4.5. Calculation of energy savings factor

The total energy savings factor in Megawatt-hours (MWh) saved for the activity is the sum of all energy savings factors for each installed window undertaken in the same premises determined by using the equations prescribed in this section.

(a) The energy savings factor is calculated as—

*Energy Savings factor (MWh) = ((-0.389 * Uw) + 4.738) * A*

Where—

i. *Uw* is the total U value for the window system (as certified under WERS) – maximum = 4.0; and

ii. *A* is the area of the installed thermally efficient window (m^2) measured from the outside of its frame to the nearest square centimetre.

1.5. Retrofit thermally efficient glazing

1.5.1. Activity definition

Activity ID 1.5 – In accordance with the prescribed minimum activity performance specifications, installing a product that improves the thermal efficiency of a window to one or more single glazed windows in an external wall of a conditioned zone where the existing glazing does not meet the minimum thermal performance requirements prescribed in section 1.5.3, so that the glazing product covers all panes of the window unit or units.

1.5.2. Minimum activity performance specifications

To be an eligible activity the activity must—

(a) be undertaken at an eligible residential premises;

(b) be undertaken using a product or products meeting the installed product requirements in section 1.5.3;

(c) be completed and certified in accordance with the relevant code or codes of practice and other relevant legislation applying to the activity, including any licensing, registration, statutory approval, activity certification, health, safety, environmental or waste disposal requirements; and

(d) be recorded in accordance with any relevant code of practice for the activity.

Note *All activities are subject to independent inspection or audit to confirm compliance with prescribed activity requirements.*

1.5.3. Installed product requirements

An installed product must be a glazing product that—

(a) when installed, creates a still air gap between an existing single glazed window and the product and raises the thermal efficiency performance of the window;

(b) is either glass, acrylic or polycarbonate (films are not eligible);

(c) is designed and suitable for installation on an existing window;

(d) is simply removable by the homeowner so as to permit access to the formed air gap for cleaning/drying purposes;

(e) is a window product currently rated under the WERS scheme;

(f) when installed, has a maximum total Uw value of 4.0, as rated by WERS when calculated exclusive of window coverings;

(g) when installed, has a minimum solar heat gain co-efficient of 0.4, as rated by WERS;

(h) complies with the relevant performance requirements of AS 2047 and AS 1288;

(i) is fit for the purpose for which it is intended to be used;

(j) must be listed in the register of products; and

(k) complies with any product safety or other product requirements in a relevant code of practice or other relevant legislation.

1.5.4. Time the activity is taken to be completed

The activity is taken to be completed on the day all applicable prescribed activity requirements are completed.

1.5.5. Calculation of energy savings factor

The total energy savings factor in Megawatt-hours (MWh) saved for the activity is the sum of all energy savings factors for each glazing product installed in the premises, determined by using the equations prescribed in this section.

(a) The energy savings factor is calculated as—

$$Energy\ Savings\ factor\ (MWh) = ((-0.233 * Uw) + 2.843) * A$$

Where—

i. *Uw* is the total U value for the window system (as certified under WERS) – maximum = 4.0; and

ii. *A* is the number of square metres (m^2) to the nearest square centimetre of the type of glazing product installed.

1.6. Install thermally efficient window coverings

1.6.1. Activity definition

Activity ID 1.6 – In accordance with the prescribed minimum activity performance specifications, installing window coverings to a window in an external wall of a conditioned zone that fully cover the window and restrict the convective air flow from between the window covering and glazing to the internal space.

1.6.2. Minimum activity performance specifications

To be an eligible activity the activity must—

(a) be undertaken at an eligible residential premises;

(b) be undertaken using a product or products meeting the installed product requirements in section 1.6.3;

(c) be completed and certified in accordance with the relevant code or codes of practice and other relevant legislation applying to the activity, including any licensing, registration, statutory approval, activity certification, health, safety, environmental or waste disposal requirements; and

(d) be recorded in accordance with any relevant code of practice for the activity.

Note *All activities are subject to independent inspection or audit to confirm compliance with prescribed activity requirements.*

1.6.3. Installed product requirements

1.6.3.1. Window covering

An installed product must be a window covering that—

(a) is a curtain or blind that complies with ANSI A100.1, where applicable; or

(b) is a heavy drape or curtain made of a fabric, or a composite of layered materials, that does not readily allow air, visible light or ultraviolet light to pass through it and through which the presence of a light source cannot be detected by eye; or

(c) is a honeycomb or roman blind that fits within the window reveal and provides a minimal air gap between the blind and window frame.

1.6.3.2. Other requirements

The installed product must also—

(a) comply with the mandatory product and installation standard of Product Safety Australia, including the safe installation of cords;

(b) be made of a fire-retardant material; and

(c) comply with any product safety or other product performance requirements in a relevant code of practice or other relevant legislation applying to the activity.

1.6.4. Time the activity is taken to be completed

The activity is taken to be completed on the day all applicable prescribed activity requirements are completed.

1.6.5. Calculation of energy savings factor

The total energy savings factor in Megawatt-hours (MWh) saved in a premises for the activity must be determined by using the equations prescribed in this section.

(a) The energy savings factor is calculated by multiplying the area in square metres (m^2) to the nearest square centimetre of the window or windows to which curtains have been installed such that—

$$Energy\ Savings\ factor\ (MWh) = ESF \times m^2$$

Where—

i. *ESF* is a prescribed activity energy savings value of 0.914.

1.7. Install window pelmets

1.7.1. Activity definition

Activity ID 1.7 – In accordance with the prescribed minimum activity performance specifications, installing a box pelmet to a window in an external wall of a conditioned zone so that the pelmet fully encloses the top of an existing curtain, drape or blind and restricts the convective air flow from beside or above the pelmet to the window.

1.7.2. Minimum activity performance specifications

To be an eligible activity the activity must—

(a) be undertaken at an eligible residential premises;

(b) be undertaken using a product or products meeting the installed product requirements in section 1.7.3;

(c) be completed and certified in accordance with the relevant code or codes of practice and other relevant legislation applying to the activity, including any licensing, registration, statutory approval, activity certification, health, safety, environmental or waste disposal requirements; and

(d) be recorded in accordance with any relevant code of practice for the activity.

Note *All activities are subject to independent inspection or audit to confirm compliance with prescribed activity requirements.*

1.7.3. Installed product requirements

An installed product must be a box pelmet that—

(a) works in combination with the curtain or drape to enclose the top of the curtain, drape or blind to prevent air plunging by convection from beside or above the pelmet to the window; and

(b) complies with any product safety or other product requirements in a relevant code of practice or other relevant legislation.

1.7.4. Time the activity is taken to be completed

The activity is taken to be completed on the day all applicable prescribed activity requirements are completed.

1.7.5. Calculation of energy savings factor

The total energy savings factor in Megawatt-hours (MWh) saved in a premises for the activity must be determined by using the equations prescribed in this section.

(a) The energy savings factor is calculated by multiplying the area in square metres (m^2) to the nearest square centimetre of the window or windows the installed pelmets cover by the activity energy savings value such that—

$$Energy\ Savings\ factor\ (MWh) = ESF \times m^2$$

Where—

i. *ESF* is a prescribed activity energy savings value of 0.551.

1.8. Install ceiling insulation

1.8.1. Activity definition

Activity ID 1.8 – In accordance with the prescribed minimum activity performance specifications, installing a ceiling insulation product (new or top-up) in accordance with the current version of AS 3999 in a ceiling area above a room that is either uninsulated or under insulated (R value of 2.0 or less) within a residential premises.

1.8.2. Minimum activity performance specifications

To be an eligible activity the activity must—

(a) be undertaken at an eligible residential premises;

(b) be undertaken using a product or products meeting the installed product requirements in section 1.8.3;

(c) be either a new installation or the top up of existing insulation which—

i. brings the total material R-value (thermal resistance) of installed insulation products to not less than 5.0 when measured in accordance with the current version of AS/NZS 4859, or in the case where there is a physical barrier to achieving a total material R value of 5.0, a total material R value of 4.0 may be used as a minimum; and

ii. if it is not possible to achieve a total material R value of 5.0 or 4.0 out to 50mm over the top plate of the wall frame without being compressed between the roof and the ceiling, then R 2.5 perimeter batts may be installed exclusively near eaves and tight areas, in accordance with the current version of AS 3999.

Note *Top up insulation is defined as the addition of a new insulation product on top of an existing insulation product.*

Example *A ceiling containing existing R 2.0 batts could be deemed to comply if either the R 2.0 batts were removed and R 5.0 batts where installed in their place or if the R 2.0 batts are deemed still in reasonable condition, then they may be left in situ and R 3.0 or higher batts are installed as a top up over the existing batts.*

(d) be completed and certified in accordance with the relevant code or codes of practice and other relevant legislation applying to the activity, including any licensing, registration, statutory approval, activity certification, health, safety, environmental or waste disposal requirements; and

(e) be recorded in accordance with any relevant code of practice for the activity.

Note *All activities are subject to independent inspection or audit to confirm compliance with prescribed activity requirements.*

1.8.3. Installed product requirements

An installed product must be an insulation product that—

(a) is CodeMark certified or has been tested by a NATA-Accredited Testing Laboratory and can be evidenced to comply with relevant requirements of the current version of AS/NZS 4859;

(b) is not a foil laminated type product;

(c) is not a blow-in cellulose-based product;

(d) is fit for the purpose for which it is intended to be used;

(e) is made of a non-combustible material in accordance with the current version of AS 1530;

(f) comes with a minimum 25-year product warranty; and

(g) complies with any product safety or other product performance requirements in a relevant code of practice or other relevant legislation applying to the activity.

1.8.4. Time the activity is taken to be completed

The activity is taken to be completed on the day all applicable prescribed activity requirements are completed.

1.8.5. Calculation of energy savings factor

The total energy savings factor in in Megawatt-hours (MWh) saved for the activity is the sum of all energy savings factors for each item in table 4 undertaken in the same premises (noting R4 and R5 may be installed in the same premises), using the equations prescribed in this section.

(a) The energy savings factor is calculated as—

$$Energy\ Savings\ factor\ (MWh) = ESF * A$$

Where—

i. *ESF* is the relevant activity energy savings value prescribed for the activity item in table 4; and

ii. *A* is the number of square metres (m^2) of ceiling space to which ceiling insulation has been applied.

Table 4 Activity ID 1.8 energy savings values for installing ceiling insulation

Activity ID	Description	Energy Savings Value (MWh)
1.8	For each m^2 of ceiling space that R 5 insulation has been applied	0.740
1.8	For each m^2 of ceiling space that R 4 insulation has been applied (compliant with provision 1.8.2(c)ii)	0.718

1.9. Install underfloor insulation

1.9.1. Activity definition

In accordance with the prescribed minimum activity performance specifications, installing an underfloor insulation product in accordance with the current version of AS 3999 to the underside of a suspended timber floor of a room within a residential premises that sits immediately above a subfloor space that is either:

(a) **Activity ID 1.9(a)** – Enclosed, that is, where the area of open ventilation in the subfloor walling to the underfloor space averages less than 25,000 mm^2 per lineal metre of subfloor walling; or

(b) **Activity ID 1.9(b)** – Un-enclosed, that is, where the area of open ventilation in the subfloor walling to the underfloor space averages 25,000 mm^2 or more per lineal metre of subfloor walling.

Note 1 Ground floors do not include concrete floors or floors that separate habitable rooms.

Note 2 Attached garages, sheds or the like are ineligible.

1.9.2. Minimum activity performance specifications

To be an eligible activity the activity must—

(a) be undertaken at an eligible residential premises;

(b) be undertaken using a product or products meeting the installed product requirements in section 1.9.3;

(c) be completed and certified in accordance with the relevant code or codes of practice and other relevant legislation applying to the activity, including any licensing, registration, statutory approval, activity certification, health, safety, environmental or waste disposal requirements; and

(d) be recorded in accordance with any relevant code of practice for the activity.

Note 1 All activities are subject to independent inspection or audit to confirm compliance with prescribed activity requirements.

Note 2 Where only part of an uninsulated ground floor is to be insulated then living areas must be insulated as a priority, followed by bedrooms.

1.9.3. Installed product requirements

An installed product must be an insulation product that—

(a) is CodeMark certified or has been tested by a NATA-Accredited Testing Laboratory and can be evidenced to comply with relevant requirements of the current version of AS/NZS 4859;

(b) achieves a minimum material R value (thermal resistance) of 1.5 when measured in accordance with the current version of AS/NZS 4859;

(c) is not a foil laminated type product;

(d) is not a blow-in cellulose-based product;

(e) is fit for the purpose for which it is intended to be used;

(f) is made of a non-combustible material in accordance with the current version of AS 1530;

(g) is made of hydrophobic materials (i.e. fibres and cured binders) as well as having vapour permeance of equal to or greater than 0.1429 micrograms per newton second to allow any moisture to pass through;

(h) comes with a minimum 25-year product warranty;

(i) has installation instructions provided by manufacturer; and

(j) complies with any product safety or other product performance requirements in a relevant code of practice or other relevant legislation applying to the activity.

1.9.4. Time the activity is taken to be completed

The activity is taken to be completed on the day all applicable prescribed activity requirements are completed.

1.9.5. Calculation of energy savings factor

The total energy savings factor in in Megawatt-hours (MWh) saved for the activity is the sum of all energy savings factors for each item in table 5 undertaken in the same premises (noting R1.5 and R2.5 may be installed in the same premises), determined by using the equations prescribed in this section.

(a) The energy savings factor is calculated as—

$$Energy\ Savings\ factor\ (MWh) = ESF * A$$

Where—

i. *ESF* is the relevant activity energy savings value prescribed for the activity item in table 5; and

ii. *A* is the number of square metres (m^2) of underfloor space to which insulation has been applied.

Table 5 Activity ID 1.9 energy savings values for underfloor insulation

Activity ID	**Description**	**Energy Savings Value (MWh)**
1.9(a)	For each m^2 of enclosed underfloor space that R 1.5 insulation has been applied	0.265
1.9(b)	For each m^2 of unenclosed underfloor space that R 1.5 insulation has been applied	0.615
1.9(a)	For each m^2 of enclosed underfloor space that R 2.5 insulation has been applied	0.307
1.9(b)	For each m^2 of unenclosed underfloor space that R 2.5 insulation has been applied	0.690

2. Space heating and cooling activities

2.1. Install a high efficiency central air conditioning heat pump

2.1.1. Activity definition

In accordance with the prescribed minimum activity performance specifications, this activity involves the installation of a high efficiency central air conditioning heat pump system/s in—

(b) **Activity ID 2.1(a)** – Residential premises; or

(c) **Activity ID 2.1(b)** – Business premises, defined as—

i. high internal heat loads (category 1);

ii. low internal heat loads (category 2); or

iii. other internal heat loads (category 3).

Note 1 These categories are further defined in section 2.1.5, table 6.

Note 2 The numbering system used above relates to the tables in section 2.1.5.

2.1.1.1. Pre-existing heating condition

The pre-existing heating condition must be one of the following—

(a) qualifying fixed electric resistance – fixed panel heaters (must service more than 70m^2);

(b) qualifying fixed electric resistance – fixed slab or ducted (must service more than 70m^2);

(c) qualifying fixed gas ducted heater – any fixed ducted gas heaters; or

(d) none, any not specified – in the case of a category 1 business only none or a reverse cycle heat pump qualifies.

2.1.1.2. New installation condition

The new installation includes one of the following—

(a) a high efficiency central ducted reverse cycle air conditioning heat pump (central ducted heat pump);

(b) a high efficiency central non-ducted reverse cycle multi-split air conditioning heat pump (central non-ducted heat pump) or two or more high efficiency reverse cycle single split air conditioning room heat pumps (room heat pumps); or

(c) Central ducted heat pump compliant with the provisions of section 2.1.3(e)ii(2).

2.1.2. Minimum activity performance specifications

To be an eligible activity the activity must—

(a) be undertaken at an eligible residential or business premises;

(b) include the removal and decommissioning of any pre-existing heater that is used in section 2.1.5 to determine an energy savings factor;

(c) be undertaken using a product or products meeting the installed product requirements in section 2.1.3;

(d) be undertaken together with Activity 2.4 for the insulation of ductwork, where the new product requires ductwork and where existing ductwork connected to a replaced heater does not meet the installed product requirements in section 2.4.3;

(e) be completed and certified in accordance with the relevant code or codes of practice and other relevant legislation applying to the activity, including but not limited to any licensing, registration, statutory approval, activity certification, health, safety, environmental or waste disposal requirements; and

(f) be recorded in accordance with any relevant code of practice for the activity.

Note *All activities are subject to independent inspection or audit to confirm compliance with prescribed activity requirements.*

2.1.3. Installed product requirements

An installed product must be a high efficiency central air conditioning heat pump that—

(a) is listed in the register of products for the activity;

(b) has a minimum product warranty of two years;

(c) complies with Minimum Energy Performance Standard (MEPS) requirements (AS/NZS 3823);

(d) is capable of heating an area that is comparable to the system being replaced (where applicable);

(e) where the installation includes new central ducted or central non-ducted systems—

i. has a minimum rated heating capacity of 10 kW at H1 condition (AS/NZS 3823 as applicable,); and

ii. achieves a minimum annual coefficient of performance (ACOP) of either:

(1) 3.7 at condition H1 (AS/NZS 3823) for systems with 10kW and above in heat capacity; or

(2) 3.3 at condition H1 (AS/NZS 3823) for systems with 14kW and above in heat capacity and 3.1 at condition H1 (AS/NZS 3823) for systems with 22kW and above in heat capacity provided that:

(i) the installation is to replace a pre-existing heating condition of 2.1.1.1(a), 2.1.1.1(b) or 2.1.1.1(c) as defined in section 2.1.1;

(ii) the installation is to serve a conditioned floor area of not less than $70m^2$ for systems 14kW and above in heat capacity and not less than $120m^2$ for systems 22kW and above in heat capacity;

(iii) the unit has been tested and registered for low temperature performance under condition H2 and meets the requirements of AS/NZS 3823 (see note 2 and note 3 below); and

(iv) the installed unit has mandatory variable speed compressor(s), where such products are available; and

(f) where the installation includes multiple room heat pumps—

i. achieves a minimum annual coefficient of performance (ACOP) of either:

(1) 4.0 at condition H1 (AS/NZS 3823); or

(2) 3.8 at condition H1 (AS/NZS 3823) provided that:

(i) the installation is to replace a pre-existing heating condition of 2.1.1.1(a), 2.1.1.1(b) or 2.1.1.1(c) as defined in section 2.1.1;

(ii) the installation is to serve a conditioned floor area of not less than $55m^2$;

(iii) the unit has been tested and registered for low temperature performance under condition H2 and meets the requirements of AS/NZS 3823; and

(iv) the unit has a minimum heating capacity of 7 kW at H1 condition (AS/NZS 3823 as applicable); and

ii. has "built-in" demand response capability, for systems <15kW heat capacity, in accordance with AS/NZS 4755. In either heating or cooling mode, the device must be capable of operating in DR modes 1, plus mode 2 and/or 3 as defined in AS/NZS 4755.

Note 1 *Multiple heat pump units may be installed up to a maximum combined capacity of 65kW for a single business space as required to meet the particular heating load. These may be separate units or central non-ducted units provided each unit complies with the eligibility criteria above.*

Note 2 *The H2 test result can be evidenced, without need for any additional testing via:*

- *the product's H2 test result in the GEMS/E3 air-conditioning database (https://data.gov.au/dataset/energy-rating-for-household-appliances/resource/0973a476-eb0c-45e6-9a18-054f74307843);*
- *an AHRI certificate, being a certified test certificate from the Air-Conditioning, Heating, and Refrigeration Institute (www.ahrinet.org); or*
- *an Eurovent certificate, being a certified test certificate from the European Association of Air Handling and Refrigerating Equipment Manufacturers (www.eurovent-certification.com).*

Note 3 *Where a product does not have a H2 test result, it does need an air enthalpy test or a truncated calorimeter room test spanning three complete defrost cycles. The use of calorimeter or air enthalpy for H2 tests are outlined in the relevant air conditioner type test standards of AS/NZS 3823.*

Note 4 *Products that have been tested and registered for low temperature performance under condition H2 and meet the requirements of AS/NZS 3823 earn additional energy savings.*

2.1.4. Time activity is deemed to be undertaken

The activity is taken to be completed on the day all applicable prescribed activity requirements are completed, including but not limited to the disposal of any waste materials, lodgement of any statutory certifications for gas fitting work, the completed installation of the new appliance is completed and lodgement of any statutory certifications for electrical work.

2.1.5. Calculation of energy savings factor

The total energy savings factor in Megawatt-hours (MWh) saved in a premises for the activity is the relevant energy savings factor for the specified high efficiency central air conditioning heat pump installed, exclusive of any energy savings factor calculated for insulation of ductwork under section 2.4.5 where required, is determined by using the equations prescribed in this section.

(a) The energy savings factor is calculated as—

$$Energy\ Savings\ factor\ (tMWh) = [ESF_{fixed} + H2 + ESF_{var} \times (ACOP – baseline)] \times Capacity$$

Where—

i. ESF_{fixed}, ESF_{var} and *baseline* are the relevant values prescribed in:

(1) table 7 (residential premises);

(2) table 8 (business premises – category 1);

(3) table 9 (business premises – category 2); or

(4) table 10 (business premises – category 3)

for the existing heater type (where applicable) and the new product type.

ii. *ACOP* is the annual coefficient of performance recorded for the installed model in the Energy Rating database for condition H1. In circumstances where the installed model consists of more than one unit (e.g. multiple room heat pumps) then the ACOP shall be calculated as follows:

$$ACOP = \Sigma\ (ACOP_{1\text{-}n} \times C_{1\text{-}n}) / \Sigma\ (C_{1\text{-}n})$$

Where—

(1) *ACOP* is the weighted average ACOP of the individual units installed (units numbered 1 – n);

(2) *n* is the total number of units to be installed;

(3) *C* is the rated heating capacity of the installed model for condition H1 in kW for each of the individual units to be installed (numbered 1 – n);

(4) Σ is summate.

iii. *Capacity* is the rated heating capacity of the installed model/s for condition H1 in kW. For residential premises, where the capacity is greater than 30kW, the value of 30 is used in the equation of the energy savings factor.

iv. *H2* is a value of 0.25 if the installed model has been tested and registered for low temperature performance under condition H2 and meets the requirements of AS/NZS 3823 otherwise H2 is a value of 0.0 for all other products.

Table 6 Activity ID 2.1 categories of premises

Category	**Description**
Residential Premises ➢ Use table 7	As defined in section 6 – Dictionary
Business Premises Category 1 (High internal HL) ➢ Use table 8	*BCA Class 6* Food retail sub-set including specifically: • restaurants • cafes • fast food stores

Category	Description
	• bakeries
Business Premises Category 2 (Low internal HL) ➢ Use table 9	*BCA Class 5* Office based businesses *BCA Class 6* All food retail is eligible except restaurants, cafes, fast food restaurants and bakeries *BCA Class 7* Wholesale outlets and warehousing businesses *BCA Class 8* Manufacturing premises *BCA Class 9a* Health care building based professional services *BCA Class 9b* Auditoriums, churches, public halls and any assembly buildings used by not-for-profits/community groups *BCA Class 9c* Aged care
Business Premises Category 3 (Other) ➢ Use table 10	Any other business premises not included in category 1 or 2 Businesses that have a combination of both high internal and low internal HL commercial spaces

Table 7 Activity ID 2.1(a) residential premises

Pre-existing heating condition	Installed product type	Base Efficiency (*Baseline*) ACOP	Fixed Energy Savings (ESF_{fixed}) MWh	Variable Energy Savings (ESF_{var}) MWh/kW
(1) Qualifying fixed electric resistance – panel heaters (must service more than 70m^2)	(a) Central ducted heat pump	3.6	7.203	1.067
	(b) Central non-ducted heat pump, or two or more room heat pumps	3.6	7.939	0.907
	(c) Central ducted heat pump compliant with the provisions of section 2.1.3(e)ii(2)	3.1	6.411	1.390
	(a) Central ducted heat pump	3.6	10.230	1.067

Pre-existing heating condition	Installed product type	Base Efficiency (*Baseline*) ACOP	Fixed Energy Savings (ESF_{fixed}) MWh	Variable Energy Savings (ESF_{var}) MWh/kW
(2) Qualifying fixed electric resistance – slab or ducted (must service more than 70m^2)	(b) Central non-ducted heat pump, or two or more room heat pumps	3.6	10.967	0.907
	(c) Central ducted heat pump compliant with the provisions of section 2.1.3(e)ii(2)	3.1	9.439	1.390
(3) Qualifying fixed gas ducted heaters	(a) Central ducted heat pump	3.6	14.564	1.067
	(b) Central non-ducted heat pump, or two or more room heat pumps	3.6	15.300	0.907
	(c) Central ducted heat pump compliant with the provisions of section 2.1.3(e)ii(2)	3.1	13.772	1.390
(4) None, any, not specified	(a) Central ducted heat pump	3.6	0.000	1.067
	(b) Central non-ducted heat pump, or two or more room heat pumps	3.6	0.736	0.907

Table 8 Activity ID 2.1(b)i business premises – category 1

Pre-existing heating condition	Installed product type	Base Efficiency (*Baseline*) ACOP	Fixed Energy Savings (ESF_{fixed}) MWh	Variable Energy Savings (ESF_{var}) MWh/kW
(4) None, reverse cycle heat pump	(a) Central ducted heat pump	3.6	0.000	1.140
(4) None, reverse cycle heat pump	(b) Central non-ducted heat pump, or two or more room heat pump	3.6	0.786	0.969

Table 9 Activity ID 2.1(b)ii business premises – category 2

Pre-existing heating condition	**Installed product type**	**Base Efficiency (*Baseline*) ACOP**	**Fixed Energy Savings (ESF_{fixed}) MWh**	**Variable Energy Savings (ESF_{var}) MWh/kW**
(1) Qualifying fixed electric resistance – panel heaters (must service more than 70m^2)	(a) Central ducted heat pump	3.6	5.676	0.925
	(b) Central non-ducted heat pump, or two or more room heat pump	3.6	6.314	0.787
	(c) Central ducted heat pump compliant with the provisions of section 2.1.3(e)ii(2)	3.1	4.989	1.206
(2) Qualifying fixed electric resistance – slab or ducted (must service more than 70m^2)	(a) Central ducted heat pump	3.6	8.159	0.925
	(b) Central non-ducted heat pump, or two or more room heat pump	3.6	8.797	0.787
	(c) Central ducted heat pump compliant with the provisions of section 2.1.3(e)ii(2)	3.1	7.472	1.206
(3) Qualifying fixed gas ducted heater	(a) Central ducted heat pump	3.6	11.713	0.925
	(b) Central non-ducted heat pump, or two or more room heat pump	3.6	12.352	0.787
	(c) Central ducted heat pump compliant with the provisions of section 2.1.3(e)ii(2)	3.1	11.027	1.206
(4) None, any, not specified	(a) Central ducted heat pump	3.6	0.000	0.925
	(b) Central non-ducted heat pump, or two or more room heat pump	3.6	0.638	0.787

Table 10 Activity ID 2.1(b)iii business premises – category 3

Pre-existing heating condition	**Installed product type**	**Base Efficiency (*Baseline*) ACOP**	**Fixed Energy Savings (ESF_{fixed}) MWh**	**Variable Energy Savings (ESF_{var}) MWh/kW**
(1) Qualifying fixed electric resistance – panel heaters (must service more than 70m^2)	(a) Central ducted heat pump	3.6	1.103	1.033
	(b) Central non-ducted heat pump, or two or more room heat pump	3.6	1.815	0.878
	(c) Central ducted heat pump compliant with the provisions of section 2.1.3(e)ii(2)	3.1	0.336	1.345
(2) Qualifying fixed electric resistance – slab or ducted (must service more than 70m^2)	(a) Central ducted heat pump	3.6	2.566	1.033
	(b) Central non-ducted heat pump, or two or more room heat pump	3.6	3.278	0.878
	(c) Central ducted heat pump compliant with the provisions of section 2.1.3(e)ii(2)	3.1	1.800	1.345
(3) Qualifying fixed gas ducted heater	(a) Central ducted heat pump	3.6	4.660	1.033
	(b) Central non-ducted heat pump, or two or more room heat pump	3.6	5.372	0.878
	(c) Central ducted heat pump compliant with the provisions of section 2.1.3(e)ii(2)	3.1	3.894	1.345
(4) None, any, not specified	(a) Central ducted heat pump	3.6	0.000	1.033
	(b) Central non-ducted heat pump, or two or more room heat pump	3.6	0.712	0.878

2.2. Replace a ducted gas heater with high efficiency ducted gas heater (*Revoked*)

2.3. Install a high efficiency room air conditioning heat pump

2.3.1. Activity definition

In accordance with the prescribed minimum activity performance specifications, this activity involves the installation of a high efficiency room air conditioning heat pump system in—

(a) **Activity ID 2.3(a)** – Residential premises; or

(b) **Activity ID 2.3(b)** – Business premises, defined as—

i. high internal heat loads (category 1);

ii. low internal heat loads (category 2); or

iii. other internal heat loads (category 3.

Note 1 These categories are further defined in section 2.3.5, table 11.

Note 2 The numbering system used in above relates to the tables in section 2.3.5.

2.3.1.1. Pre-existing heating condition

For Activity 2.3, the pre-existing heating condition must be one of the following—

(a) qualifying fixed electric resistance – a fixed electric resistance room heater that is hardwired including panel (excludes portable or plug-in heaters);

(b) qualifying fixed gas heater – a fixed flued gas heater (excludes portable or un-flued heaters); or

(c) none, any, not specified – in the case of a category 1 business, only none or a reverse cycle heat pump qualifies.

2.3.1.2. New installation condition

For Activity 2.3, the new installation includes one of the following—

(a) a high efficiency room air conditioning heat pump (room heat pump); or

(b) a high efficiency central non-ducted reverse cycle multi-split air conditioning heat pump (central non-ducted heat pump).

2.3.2. Minimum activity performance specifications

To be an eligible activity the activity must**—**

(a) be undertaken at an eligible residential or business premises;

(b) include the removal and decommissioning of any pre-existing heater that is used in section 2.3.5 to determine an energy savings factor;

(c) be undertaken using a product or products meeting the installed product requirements in section 2.3.3;

(d) be completed and certified in accordance with the relevant code or codes of practice and other relevant legislation applying to the activity, including but not limited to any licensing, registration, statutory approval, activity certification, health, safety, environmental or waste disposal requirements; and

(e) be recorded in accordance with any relevant code of practice for the activity.

Note All activities are subject to independent inspection or audit to confirm compliance with prescribed activity requirements.

2.3.3. Installed product requirements

An installed product must be a high efficiency room air conditioning heat pump that—

(a) is listed in the register of products for the activity;

(b) has a minimum product warranty of two years;

(c) complies with Minimum Energy Performance Standards (MEPS) requirements (AS/NZS 3823);

(d) is capable of heating an area that is comparable to the system being replaced (where applicable);

(e) achieves a minimum annual coefficient of performance (ACOP) of either:

i. 4.0 at condition H1 (AS/NZS 3823); or

ii. 3.8 at condition H1 (AS/NZS 3823) provided that:

(1) the installation is to replace a pre-existing heating condition of 2.3.1.1(a) or 2.3.1.1(b) as defined in section 2.3.1;

(2) the installation is to serve a conditioned floor area of not less than $55m^2$;

(3) the unit has been tested and registered for low temperature performance under condition H2 and meets the requirements of AS/NZS 3823 (see note 2 and 3 below);

(4) the unit has a minimum heating capacity of 4kW at H1 condition (AS/NZS 3823 as applicable); and

(5) the installed unit has mandatory variable speed compressor(s), where such products are available; and

(f) has "built-in" demand response capability, for systems <15kW heat capacity, in accordance with AS/NZS 4755 . In either heating or cooling mode, the device must be capable of operating in DR modes 1, plus mode 2 and/or 3 as defined in AS/NZS 4755.

Note 1 *For business applications, multiple units may be installed in a single (large) space of a business up to a maximum combined capacity of 65kW as required to meet the particular load. These may be separate room space heating units or multi-split units provided each unit complies with the eligibility criteria above.*

Note 2 *The H2 test result can be evidenced, without need for any additional testing via:*

- *the product's H2 test result in the GEMS/E3 air-conditioning database (https://data.gov.au/dataset/energy-rating-for-household-appliances/resource/0973a476-eb0c-45e6-9a18-054f74307843);*
- *an AHRI certificate, being a certified test certificate from the Air-Conditioning, Heating, and Refrigeration Institute (www.ahrinet.org); or*
- *an Eurovent certificate, being a certified test certificate from the European Association of Air Handling and Refrigerating Equipment Manufacturers (www.eurovent-certification.com).*

Note 3 *Where a product does not have an H2 test result, it does need an air enthalpy test or a truncated calorimeter room test spanning three complete defrost cycles. The use of calorimeter or air enthalpy for H2 tests are outlined in the relevant air conditioner type test standards of AS/NZS 3823.*

Note 4 *Products that have been tested and registered for low temperature performance under condition H2 and meet the requirements of AS/NZS 3823 earn additional energy savings.*

2.3.4. Time the activity is taken to be completed

The activity is taken to be completed on the day all applicable prescribed activity requirements are completed, including but not limited to the disposal of any waste materials, lodgement of any statutory certifications for gas fitting work, the installation of the new appliance is completed and lodgement of any statutory certifications for electrical work.

2.3.5. Calculation of energy savings factor

The total energy savings factor in Megawatt-hours (MWh) saved in a premises for the activity is the relevant energy savings factor for the specified high efficiency electric room heaters installed, determined by using the equations prescribed in this section.

(a) The energy savings factor is calculated as—

$$Energy\ Savings\ factor\ (MWh) = [ESF_{fixed} + H2 + ESF_{var} \times (ACOP - baseline)] \times Capacity$$

Where—

i. ESF_{fixed}, ESF_{var} and *baseline* are the relevant values prescribed in:

(1) table 12 (residential premises);

(2) table 13 (business premises – category 1);

(3) table 14 (business premises – category 2); or

(4) table 15 (business premises – category 3).

For the existing heater type (where applicable) and the new product type.

ii. *ACOP* is the Annual Coefficient of Performance recorded for the installed model in the Energy Rating database for condition H1.

iii. *Capacity* is the rated heating capacity of the installed model for condition H1 in kW.

iv. H2 is a value of 0.25 if the installed model has been tested and registered for low temperature performance under condition H2 and meets the requirements of AS/NZS 3823 or H2 is a value of 0.0 for all other products.

Table 11 Activity ID 2.3 categories of premises

Category	**Description**
Residential Premises ➢ Use table 12	As defined in section 6 – Dictionary
Business Premises Category 1 (High internal HL) ➢ Use table 13	*BCA Class 6* Food retail sub-set including specifically: • restaurants • cafes • fast food stores

Category	Description
	• bakeries
Business Premises Category 2 (Low internal HL) ➢ Use table 14	*BCA Class 5* Office based businesses *BCA Class 6* All food retail is eligible except restaurants, cafes, fast food restaurants and bakeries *BCA Class 7* Wholesale outlets and warehousing businesses *BCA Class 8* Manufacturing premises *BCA Class 9a* Health care building based professional services *BCA Class 9b* Auditoriums, churches, public halls and any assembly buildings used by not-for-profits/community groups *BCA Class 9c* Aged care
Business Premises Category 3 (Other) ➢ Use table 14	Any other business premises not included in category 1 or 2 Businesses which have a combination of both high internal and low internal HL commercial spaces

Table 12 Activity ID 2.3(a) residential premises

Existing Heater Type	New Product Type	Base Efficiency (***Baseline***) ACOP	Fixed Energy Savings (ESF_{fixed}) MWh	Variable Energy Savings (ESF_{var}) MWh/kW
(1) Qualifying fixed electric resistance	(a) High efficiency room heat pump or central non-ducted heat pump	3.7	8.456	0.913
(2) Qualifying fixed gas heater	(a) High efficiency room heat pump or central non-ducted heat pump	3.7	12.482	0.913
(3) None, any, not specified	(a) High efficiency room heat pump or central non-ducted heat pump	3.7	0.000	0.913

Table 13 Activity ID 2.3(b)i business premises – category 1

Existing Heater Type	**New Product Type**	**Base Efficiency (*Baseline*) ACOP**	**Fixed Energy Savings (ESF_{fixed}) MWh**	**Variable Energy Savings (ESF_{var}) MWh/kW**
(3) None, reverse cycle heat pump	(a) High efficiency room heat pump or central non-ducted heat pump	3.7	0.00	0.820

Table 14 Activity ID 2.3(b)ii business premises – category 2

Existing Heater Type	**New Product Type**	**Base Efficiency (*Baseline*) ACOP**	**Fixed Energy Savings (ESF_{fixed}) MWh**	**Variable Energy Savings (ESF_{var}) MWh/kW**
(1) Qualifying fixed electric resistance	(a) High efficiency room heat pump or central non-ducted heat pump	3.7	5.943	0.686
(2) Qualifying fixed gas heater	(a) High efficiency room heat pump or central non-ducted heat pump	3.7	8.838	0.686
(3) None, any, not specified	(a) High efficiency room heat pump or central non-ducted heat pump	3.7	0.00	0.686

Table 15 Activity ID 2.3(b)iii business premises – category 3

Existing Heater Type	**New Product Type**	**Base Efficiency (*Baseline*) ACOP**	**Fixed Energy Savings (ESF_{fixed}) MWh**	**Variable Energy Savings (ESF_{var}) MWh/kW**
(1) Qualifying fixed electric resistance	(a) High efficiency room heat pump or central non-ducted heat pump	3.7	1.861	0.753
(2) Qualifying fixed gas heater	(a) High efficiency room heat pump or central non-ducted heat pump	3.7	3.67	0.753
(3) None, any, not specified	(a) High efficiency room heat pump or central non-ducted heat pump	3.7	0.00	0.753

2.4. Install insulated space conditioning ductwork

2.4.1. Activity definition

Activity ID 2.4 – In accordance with the prescribed minimum activity performance specifications, decommissioning all existing space conditioning ductwork that is connected to an operable ducted gas heater or to an operable electric heat pump heater and does not achieve a minimum insulating R-value of 1.5 and replacing it with new ductwork that achieves an insulating R-value of 1.5 or higher.

2.4.2. Minimum activity performance specifications

To be an eligible activity the activity must**—**

(a) be undertaken at an eligible residential premises;

(b) be undertaken using a product or products meeting the installed product requirements in section 2.4.3;

(c) be completed and certified in accordance with the relevant code or codes of practice and other relevant legislation applying to the activity, including any licensing, registration, statutory approval, activity certification, health, safety, environmental or waste disposal requirements; and

(d) be recorded in accordance with any relevant code of practice for the activity.

Note *All activities are subject to independent inspection or audit to confirm compliance with prescribed activity requirements.*

2.4.3. Installed product requirements

An installed product must be ductwork that—

(a) is installed within a roof space or between a floor and the natural ground;

(b) is tested and certified by an approved laboratory as complying with AS 4254;

(c) is insulated using bulk insulation that is certified by an accredited body or approved laboratory as complying with AS/NZS 4859;

(d) is suitable for installation in a ducted gas heating system or a ducted electric heat pump heating system;

(e) achieves a minimum R-value of 1.5 when measured in accordance with AS/NZS 4859 with the exception noted at (f) below;

(f) existing ductwork that does not meet the requirement of having an R-value of 1.5 may be utilised in a ducting system if—

i. the section of ductwork is inaccessible in a section of the building such as between floors or vertical riser shafts;

ii. where replacement of existing ductwork is impractical;

iii. it has an immaterial effect on the thermal improvement from the overall activity;

iv. the section of ductwork is within a conditioned part of the building;

v. sections located in riser shafts have the space between the ductwork and the riser shaft effectively sealed at the top of the shaft and the bottom of the shaft (where practical) so as to prevent airflow up the shaft

(i.e. seal between the shaft walls and the external surface of the ductwork where it enters and exits the riser shaft); and

vi. the use of the existing ductwork is recorded against the job and reported during normal reporting periods;

(g) is longitudinally labelled at intervals of not more than 1.5 metres, in characters that are clearly legible and at least 18mm high stating—

i. the duct manufacturer's or duct assembler's name;

ii. the diameter of the duct core;

iii. the R-value of the bulk insulation; and

iv. whether the ductwork complies with AS 4254;

(h) is installed and supported in accordance with the relevant requirements in AS 4254;

(i) uses fittings that achieve a minimum R-value of 0.4;

(j) includes dampers (where required) that have positive seal damper mechanisms to prevent leakage; and

(k) when installing the new flexible duct work system the installer must at a minimum—

i. undertake the installation in accordance with manufacturer's instructions;

ii. duct tape the inner liner to the collar and ensure the insulation is pulled up over the collar before the outer is duct taped and mechanically fixed to minimise heat loss at the collar join; and

iii. tape any small tears/holes in the outer or inner sleeve using foil tape for the outer sleeve and duct tape for the inner sleeve. Taping of any significant tears of more than one quarter of the circumference of the duct may not last and therefore that section of duct is no longer suitable and should be replaced.

2.4.4. Time the activity is taken to be completed

The activity is taken to be completed on the day all applicable prescribed activity requirements are completed, including but not limited to the disposal of any waste materials.

2.4.5. Calculation of energy savings factor

The total energy savings factor in Megawatt-hours (MWh) saved in a premises for the activity is the relevant energy savings factor for the type of ducted heater the installed ductwork is connected to, determined by using the equations prescribed in this section.

(a) The energy savings factor is calculated by multiplying the rated output capacity of the heater to which the installed ductwork is connected, to the nearest kW (see note below), such that—

$$Energy\ Savings\ factor\ (MWh) = ESF \times Capacity$$

Where—

i. *ESF* is the relevant activity energy savings value prescribed in table 16; and

ii. *Capacity* is the rated heating capacity for the installed model in kW.

Table 16 Activity ID 2.4 energy savings values for insulated space conditioning ductwork

Activity ID	**Existing Heater Type**	**ESF Factor**
2.4(a)	Gas ducted	3.249
2.4(b)	Electric ducted heat pump	0.840

Note *Where a gas ducted heater is rated in megajoules per hour (MJ/h) this may be converted to a kW rating by dividing the MJ/h rating by 3.6.*

2.5. Replace separate central heating and cooling systems with a high efficiency central air conditioning heat pump system

2.5.1. Activity definition

In accordance with the prescribed minimum activity performance specifications, this activity involves the replacement of separate central heating and cooling systems with a high efficiency central heat pump system/s—

(a) **Activity ID 2.5(a)** – Not active; or

(b) **Activity ID 2.5(b)** – Business premises, defined as—

i. high internal heat loads (category 1);

ii. low internal heat loads (category 2); or

iii. other internal heat loads (category 3).

Note *The business premises categories are further defined in section 2.5.5, table 17.*

Note *The numbering system used above relates to the tables in section 2.5.5.*

2.5.1.1. Pre-existing heating condition

For Activity 2.5, the pre-existing heating condition must be one of the following—

(a) qualifying fixed electric systems – a fixed electric central heater and a fixed electric central cooler (must service more than 70m^2). All fixed electric central heater systems are eligible. Fixed electric central cooler systems must use refrigerative cooling technology (heat pumps and chillers); or

(b) qualifying fixed gas heater and electric cooler – a fixed gas central heater and a fixed electric central cooler (must service more than 70m^2). All fixed flued gas central heater systems are eligible. Portable or unflued gas heaters of any description are ineligible. Fixed electric central cooler systems must use refrigerative cooling technology (heat pumps and chillers).

2.5.1.2. New installation condition

For Activity 2.5, the new installation includes one of the following—

(a) a high efficiency central ducted reverse cycle air conditioning heat pump (central ducted heat pump);

(b) a high efficiency central non-ducted reverse cycle multi-split air conditioning heat pump (central non-ducted heat pump) or two or more high efficiency reverse cycle single split air conditioning room heat pumps (room heat pumps); or

(c) central ducted heat pump compliant with the provisions of section 2.5.3(f)ii(2).

2.5.2. Minimum activity performance specifications

To be an eligible activity the activity must—

(a) be undertaken at an eligible business premises;

(b) include the removal and decommissioning of any pre-existing heater that is used in section 2.5.5 to determine an energy savings factor;

(c) be undertaken using a product or products meeting the installed product requirements in section 2.5.3;

(d) be undertaken together with Activity 2.4 for the insulation of ductwork, where the new product requires ductwork and where existing ductwork connected to a replaced heater does not meet the installed product requirements in section 2.4.3;

(e) be completed and certified in accordance with the relevant code or codes of practice and other relevant legislation applying to the activity, including any licensing, registration, statutory approval, activity certification, health, safety, environmental or waste disposal requirements; and

(f) be recorded in accordance with any relevant code of practice for the activity.

Note *All activities are subject to independent inspection or audit to confirm compliance with prescribed activity requirements*

2.5.3. Installed product requirements

An installed product must be a high efficiency central air conditioning heat pump that—

(a) is listed in the register of products for the activity;

(b) has a minimum product warranty of two years;

(c) complies with Minimum Energy Performance Standard (MEPS) requirements (AS/NZS 3823);

(d) is capable of heating an area that is comparable to the system being replaced (where applicable);

(e) has a maximum rated heating capacity of 65kW for a single business space (see note 1 below) at H1 condition (AS/NZS 3823 as applicable);

(f) where the installation includes new central ducted or central non-ducted systems—

i. has a minimum rated heating capacity of 10kW at H1 condition (AS/NZS 3823 as applicable); and

ii. achieves a minimum annual coefficient of performance (ACOP) of either:

(1) 3.7 at condition H1 (AS/NZS 3823) for systems with 10kW and above in heat capacity; or

(2) 3.3 at condition H1 (AS/NZS 3823) for systems with 14kW and above in heat capacity and 3.1 at condition H1 (AS/NZS 3823) for systems with 22kW and above in heat capacity provided that:

(i) the installation is to serve a conditioned floor area of not less than 70m^2 for systems 14kW and above in heat capacity and not less than 120m^2 for systems 22kW and above in heat capacity;

(ii) the unit has been tested and registered for low temperature performance under condition H2 and meets the requirements of AS/NZS 3823 (see note 2 and 3 below); and

(iii) the installed unit has mandatory variable speed compressor(s) where such products are available; and

(g) where the installation includes multiple room heat pumps—

i. achieves a minimum annual coefficient of performance (ACOP) of either:

(1) 4.0 at condition H1 (AS/NZS 3823); or

(2) 3.8 at condition H1 (AS/NZS 3823) provided that:

(i) the installation is to serve a conditioned floor area of not less than 55m^2;

(ii) the unit has been tested and registered for low temperature performance under condition H2 and meets the requirements of AS/NZS 3823; and

(iii) the unit has a minimum heating capacity of 7 kW at H1 condition (AS/NZS 3823 as applicable); and

ii. the unit has "built-in" demand response capability, for systems <15kW heat capacity, in accordance with AS/NZS 4755. In either heating or cooling mode, the device must be capable of operating in DR modes 1, plus mode 2 and/or 3 as defined in AS/NZS 4755.

Note1 *Multiple heat pump units may be installed up to a maximum combined capacity of 65kW for a single business space as required to meet the particular heating load. These may be separate units or central non-ducted units provided each unit complies with the eligibility criteria above.*

Note 2 *The H2 test result can be evidenced, without need for any additional testing via:*

- *the product's H2 test result in the GEMS/E3 air-conditioning database (https://data.gov.au/dataset/energy-rating-for-household-appliances/resource/0973a476-eb0c-45e6-9a18-054f74307843);*
- *an AHRI certificate, being a certified test certificate from the Air-Conditioning, Heating, and Refrigeration Institute (www.ahrinet.org); or*
- *an Eurovent certificate, being a certified test certificate from the European Association of Air Handling and Refrigerating Equipment Manufacturers (www.eurovent-certification.com).*

Note 3 *Where a product does not have an H2 test result, it does need an air enthalpy test or a truncated calorimeter room test spanning three complete defrost cycles. The use of calorimeter or air enthalpy for H2 tests are outlined in the relevant air conditioner type test standards.*

Note 4 *Products that have been tested and registered for low temperature performance under condition H2 and meet the requirements of AS/NZS 3823 earn additional energy savings.*

2.5.4. Time activity is deemed to be undertaken

The activity is taken to be completed on the day all applicable prescribed activity requirements are completed, including but not limited to the disposal of any waste materials, lodgement of any statutory certifications for gas fitting work, the completed installation of the new appliance is completed and lodgement of any statutory certifications for electrical work.

2.5.5. Calculation of energy savings factor

The total energy savings factor in Megawatt-hours (MWh) saved in a premises for the activity is the relevant energy savings factor for the specified high efficiency central electric space heater installed, exclusive of any energy savings factor calculated for insulation of ductwork under section 2.4 where required, is determined by using the equations prescribed in this section.

(a) The energy savings factor is calculated as—

$$Energy\ Savings\ factor\ (MWh) = [ESFfixed + H2 + ESFvar \times (ACOP – baseline)] \times Capacity$$

Where—

i. ESF_{fixed}, ESF_{var} and *baseline* are the relevant values prescribed in:

(1) table 18 (business premises – category 1);

(2) table 19 (business premises – category 2); or

(3) table 20 (business premises – category 3)

for the existing heater type (where applicable) and the new product type.

ii. *ACOP* is the annual coefficient of performance recorded for the installed model in the Energy Rating database for condition H1. In circumstances where the installed model consists of more than one unit (e.g. multiple single split air-conditioners) then the ACOP shall be calculated as follows:

$$ACOP = \Sigma (ACOP_{1\text{-}n} \times C_{1\text{-}n}) / \Sigma (C_{1\text{-}n})$$

Where—

(1) *ACOP* is the weighted average ACOP of the individual units installed (units numbered 1 – n);

(2) *n* is the total number of units to be installed;

(3) *C* is the rated heating capacity of the installed model for condition H1 in kW for each of the individual units to be installed (numbered 1 – n); and

(4) Σ is summate.

iii. *Capacity* is the rated heating capacity of the installed model for condition H1 in kW.

iv. *H2* is a value of 0.25 if the installed model has been tested and registered for low temperature performance under condition H2 and meets the requirements of AS/NZS 3823 otherwise H2 is a value of 0.0 for all other products.

Table 17 Activity ID 2.5 categories of premises

Category	**Description**
Business Premises Category 1 (High internal HL) ➢ Use table 18	*BCA Class 6* Food retail sub-set including specifically: • restaurants • cafes • fast food stores • bakeries
Business Premises Category 2 (Low internal HL) ➢ Use table 19	*BCA Class 5* Office based businesses *BCA Class 6* All food retail is eligible except restaurants, cafes, fast food restaurants and bakeries *BCA Class 7*

Category	Description
	Wholesale outlets and warehousing businesses *BCA Class 8* Manufacturing premises *BCA Class 9a* Health care building based professional services *BCA Class 9b* Auditoriums, churches, public halls and any assembly buildings used by not-for-profits/community groups *BCA Class 9c* Aged care
Business Premises Category 3 (Other) ➢ Use table 20	Any other business premises not included in category 1 or 2 Businesses which have a combination of both high internal and low internal HL commercial spaces

Table 18 Activity ID 2.5(b)i business premises – category 1

Pre-existing heating condition	Installed product type	Base Efficiency (*Baseline*) ACOP	Fixed Energy Savings (ESF_{fixed}) MWh	Variable Energy Savings (ESF_{var}) MWh/kW
(1) Qualifying fixed electric systems (must service more than 70m^2)	(a) Central ducted heat pump	3.6	0.000	1.140
	(b) Central non-ducted heat pump, or two or more room heat pumps	3.6	0.786	0.969
	(c) Central ducted heat pump compliant with the provisions of section 2.5.3(f)ii(2)	3.1	0.000	1.485
(2) Qualifying fixed gas heater and electric cooler (must service more than 70m^2)	(a) Central ducted heat pump	3.6	2.223	1.140
	(b) Central non-ducted heat pump, or two or more room heat pumps	3.6	3.010	0.969
	(c) Central ducted heat pump compliant with the provisions of section 2.5.3(f)ii(2)	3.1	2.122	1.485

Table 19 Activity ID 2.5(b)ii business premises – category 2

Pre-existing heating condition	**Installed product type**	**Base Efficiency (*Baseline*) ACOP**	**Fixed Energy Savings (ESF_{fixed}) MWh**	**Variable Energy Savings (ESF_{var}) MWh/kW**
(1) Qualifying fixed electric systems (must service more than $70m^2$)	(a) Central ducted heat pump	3.6	0.00	0.925
	(b) Central non-ducted heat pump, or two or more room heat pumps	3.6	0.638	0.787
	(c) Central ducted heat pump compliant with the provisions of section 2.5.3(f)ii(2)	3.1	0.000	1.206
(2) Qualifying fixed gas heater and electric cooler (must service more than $70m^2$)	(a) Central ducted heat pump	3.6	12.461	0.925
	(b) Central non-ducted heat pump, or two or more room heat pumps	3.6	13.099	0.787
	(c) Central ducted heat pump compliant with the provisions of section 2.5.3(f)ii(2)	3.1	11.895	1.206

Table 20 Activity ID 2.5(b)iii business premises – category 3

Pre-existing heating condition	**Installed product type**	**Base Efficiency (*Baseline*) ACOP**	**Fixed Energy Savings (ESF_{fixed}) MWh**	**Variable Energy Savings (ESF_{var}) MWh/kW**
(1) Qualifying fixed electric systems (must service more than $70m^2$)	(a) Central ducted heat pump	3.6	0.000	1.033
	(b) Central non-ducted heat pump, or two or more room heat pumps	3.6	0.712	0.878
	(c) Central ducted heat pump compliant with the provisions of section 2.5.3(f)ii(2)	3.1	0.000	1.345
(2) Qualifying fixed gas heater and electric	(a) Central ducted heat pump	3.6	7.342	1.033
	(b) Central non-ducted heat pump, or two or more room heat pumps	3.6	8.055	0.878

Pre-existing heating condition	Installed product type	Base Efficiency (*Baseline*) ACOP	Fixed Energy Savings (ESF_{fixed}) MWh	Variable Energy Savings (ESF_{var}) MWh/kW
cooler (must service more than $70m^2$)	(c) Central ducted heat pump compliant with the provisions of section 2.5.3(f)ii(2)	3.1	7.009	1.345

2.6. Replace separate room heating and cooling systems with a high efficiency room heat pump

2.6.1. Activity definition

In accordance with the prescribed minimum activity performance specifications, this activity involves the replacement of separate room heating and cooling systems with a high efficiency room heat pump system in—

(a) **Activity ID 2.6(a)** – Not active; or

(b) **Activity ID 2.6(b)** – Business premises, defined as—

i. high internal heat loads (category 1);

ii. low internal heat loads (category 2); or

iii. other internal heat loads (category 3).

Note 1 The business premises categories are further defined in section 2.6.5, table 21.

Note 2 The numbering system used above relates to the tables in section 2.6.5.

2.6.1.1. Pre-existing heating condition

For Activity 2.6, the pre-existing heating condition must be one of the following—

(a) qualifying fixed electric systems – a fixed electric room heater and a fixed electric room cooler. All fixed electric room heater systems are eligible. Fixed electric room cooler systems must use refrigerative cooling technology (heat pumps and chillers); or

(b) qualifying fixed gas heater and electric cooler – a fixed gas room heater and a fixed electric room cooler. All flued fixed gas room heater systems are eligible (unflued gas heaters of any description are ineligible.) Fixed electric room cooler systems must use refrigerative cooling technology (heat pumps and chillers).

2.6.1.2. New installation condition

For Activity 2.6, the new installation includes—

(a) a high efficiency room air conditioning heat pump (room heat pump) or a high efficiency central non-ducted reverse cycle multi-split air conditioning heat pump (central non-ducted heat pump).

2.6.2. Minimum activity performance specifications

To be an eligible activity the activity must**—**

(a) be undertaken at an eligible business premises;

(b) include the removal and decommissioning of any pre-existing heater that is used in section 2.6.5 to determine an energy savings factor;

(c) be undertaken using a product or products meeting the installed product requirements in section 2.6.3;

(d) be completed and certified in accordance with the relevant code or codes of practice and other relevant legislation applying to the activity, including any licensing, registration, statutory approval, activity certification, health, safety, environmental or waste disposal requirements; and

(e) be recorded in accordance with any relevant code of practice for the activity.

Note *All activities are subject to independent inspection or audit to confirm compliance with prescribed activity requirements.*

2.6.3. Installed product requirements

An installed product must be a high efficiency room air conditioning heat pump that—

(a) is listed in the register of products for the activity;

(b) has a minimum product warranty of two years;

(c) complies with Minimum Energy Performance Standards (MEPS) requirements (AS/NZS 3823);

(d) is capable of heating an area that is comparable to the system being replaced (where applicable);

(e) has a rated heating capacity of not more than 65kW for a single business space (see note 1 below) at H1 condition (AS/NZS 3823 as applicable) and, except as required in section 2.6.3(f)ii(3) where applicable, has a minimum rated heating capacity of 2kW at condition H1; and

(f) achieves a minimum annual coefficient of performance (ACOP) of either:

i. 4.0 at condition H1 (AS/NZS 3823); or

ii. 3.8 at condition H1 (AS/NZS 3823) provided that:

(1) the installation is to serve a conditioned floor area of not less than $55m^2$;

(2) the unit has been tested and registered for low temperature performance under condition H2 and meets the requirements of AS/NZS 3823 (see note 2 and 3 below);

(3) the unit has a minimum heating capacity of 4kW at H1 condition (AS/NZS 3823 as applicable);

(4) the installed unit has mandatory variable speed compressor(s), where such products are available; and

(5) the unit has “built-in” demand response capability, for systems <15kW heat capacity, in accordance with AS/NZS 4755 . In either heating or cooling mode, the device must be capable of operating in DR modes 1, plus mode 2 and/or 3 as defined in AS/NZS 4755.

Note 1 *For business applications, multiple units may be installed in a single (large) space of a business up to a maximum combined capacity of 65kW as required to meet the particular load. These may be separate room space heating units or multi-split units provided each unit complies with the eligibility criteria above.*

Note 2 *The H2 test result can be evidenced, without need for any additional testing via:*

- *the product’s H2 test result in the GEMS/E3 air-conditioning database (https://data.gov.au/dataset/energy-rating-for-household-appliances/resource/0973a476-eb0c-45e6-9a18-054f74307843);*
- *an AHRI certificate, being a certified test certificate from the Air-Conditioning, Heating, and Refrigeration Institute (www.ahrinet.org); or*
- *an Eurovent certificate, being a certified test certificate from the European Association of Air Handling and Refrigerating Equipment Manufacturers (www.eurovent-certification.com).*

Note 3 *Where a product does not have a H2 test result, it does need an air enthalpy test or a truncated calorimeter room test spanning three complete defrost cycles. The use of calorimeter or air enthalpy for H2 tests are outlined in the relevant air conditioner type test standards of AS/NZS 3823.*

Note 4 *Products that have been tested and registered for low temperature performance under condition H2 and meet the requirements of AS/NZS 3823 earn additional energy savings.*

2.6.4. Time the activity is taken to be completed

The activity is taken to be completed on the day all applicable prescribed activity requirements are completed, including but not limited to the disposal of any waste materials, lodgement of any statutory certifications for gas fitting work, the installation of the new appliance is completed and lodgement of any statutory certifications for electrical work.

2.6.5. Calculation of energy savings factor

The total energy savings factor in Megawatt-hours (MWh) saved in a premises for the activity is the relevant energy savings factor for the specified high efficiency room electric reverse cycle air-conditioner installed, determined by using the equations prescribed in this section.

(a) The energy savings factor is calculated as—

$$Energy\ Savings\ factor\ (MWh) = [ESF_{fixed} + H2 + ESF_{var} \times (ACOP – baseline)] \times Capacity$$

Where—

i. ESF_{fixed}, ESF_{var} and *baseline* are the relevant values prescribed in:

(1) table 22 (business premises – category 1);

(2) table 23 (business premises – category 2); or

(3) table 24 (business premises – category 3)

for the pre-existing heating condition and installed product type.

ii. *ACOP* is the Annual Coefficient of Performance recorded for the installed model in the Energy Rating database for condition H1.

iii. *Capacity* is the rated heating capacity of the installed model for condition H1 in kW.

iv. *H2* is a value of 0.25 if the installed model has been tested and registered for low temperature performance under condition H2 and meets the requirements of AS/NZS 3823 or H2 is a value of 0.0 for all other products.

Table 21 Activity ID 2.6 categories of premises

Category	**Description**
Business Premises Category 1 (High internal HL) ➢ Use table 22	*BCA Class 6* Food retail sub-set including specifically: • restaurants • cafes • fast food stores • bakeries
Business Premises Category 2	*BCA Class 5* Office based businesses

Category	Description
(Low internal HL) ➢ Use table 23	*BCA Class 6* All food retail is eligible except restaurants, cafes, fast food restaurants and bakeries *BCA Class 7* Wholesale outlets and warehousing businesses *BCA Class 8* Manufacturing premises *BCA Class 9a* Health care building based professional services *BCA Class 9b* Auditoriums, churches, public halls and any assembly buildings used by not-for-profits/community groups *BCA Class 9c* Aged care
Business Premises Category 3 (Other) ➢ Use table 24	Any other business premises not included in category 1 or 2 Businesses which have a combination of both high internal and low internal HL commercial spaces

Table 22 Activity ID 2.6(b)i business premises – category 1

Pre-existing heating condition	Installed product type	Base Efficiency (*Baseline*) ACOP	Fixed Energy Savings (ESF_{fixed}) MWh	Variable Energy Savings (ESF_{var}) MWh/kW
(1) Qualifying fixed electric systems	(a) High efficiency room heat pump or central non-ducted heat pump	3.7	0.000	0.820
(2) Qualifying fixed gas heater and electric cooler	(a) High efficiency room heat pump or central non-ducted heat pump	3.7	1.675	0.820

Table 23 Activity ID 2.6(b)ii business premises – category 2

Pre-existing heating condition	**Installed product type**	**Base Efficiency (*Baseline*) ACOP**	**Fixed Energy Savings (ESF_{fixed}) MWh**	**Variable Energy Savings (ESF_{var}) MWh/kW**
(1) Qualifying fixed electric systems	(a) High efficiency room heat pump or central non-ducted heat pump	3.7	0.000	0.686
(2) Qualifying fixed gas heater and electric cooler	(a) High efficiency room heat pump or central non-ducted heat pump	3.7	9.385	0.686

Table 24 Activity ID 2.6(b)iii business premises – category 3

Pre-existing heating condition	**Installed product type**	**Base Efficiency (*Baseline*) ACOP**	**Fixed Energy Savings (ESF_{fixed}) MWh**	**Variable Energy Savings (ESF_{var}) MWh/kW**
(1) Qualifying fixed electric systems	(a) High efficiency room heat pump or central non-ducted heat pump	3.7	0.001	0.753
(2) Qualifying fixed gas heater and electric cooler	(a) High efficiency room heat pump or central non-ducted heat pump	3.7	5.530	0.753

3. Hot water service activities

3.1. Decommission an electric resistance water heater and install a specified high efficiency water heater

3.1.1. Activity definition

Activity ID 3.1 – In accordance with the prescribed minimum activity performance specifications, decommissioning an electric resistance water heater in a hot water system servicing sanitary fixtures and appliances and installing a specified high efficiency water heater.

(a) **Activity ID 3.1(a)** – Solar electric small (25.2 MJ/day or 120 litres/day); or

(b) **Activity ID 3.1(b)** – Solar electric medium (42 MJ/day or 121 to 200 litres/day); or

(c) **Activity ID 3.1(c)** – Electric heat pump medium (42 MJ/day or 200 litres/day).

Note 1 These categories are further defined in section 3.1.5, table 25.

Note 2 The numbering system used above relates to the tables in section 3.1.5.

3.1.2. Minimum activity performance specifications

To be an eligible activity the activity must**—**

(a) be undertaken at an eligible residential premises or an eligible business premises with an existing electric resistance water heater (excluding solar and heat pump);

(b) be undertaken using a product or products meeting the installed product requirements in section 3.1.3;

(c) be completed and certified in accordance with the relevant code or codes of practice and other relevant legislation applying to the activity, including any licensing, registration, statutory approval, activity certification, health, safety, environmental or waste disposal requirements; and

(d) be recorded in accordance with any relevant code of practice for the activity.

Note All activities are subject to independent inspection or audit to confirm compliance with prescribed activity requirements.

3.1.3. Installed product requirements

A specified high efficiency water heater for this activity includes any of the following water heater options as set out in (a) or (b) below.

(a) An electric boosted solar water heater that—

i. is certified by a relevant accredited body to AS/NZS 2712;

ii. achieves minimum energy performance of 60 per cent solar contribution in climate zone 4 as determined in accordance with AS/NZS 4234;

iii. is listed in the register of products for the activity; and

iv. complies with any product safety or other product performance requirements in a relevant code of practice or other relevant legislation applying to the activity.

(b) An electric heat pump water heater that—

i. has been tested in accordance with AS/NZS 5125 ;

ii. is registered with the Clean Energy Regulator (CER) as an air source heat pump with a volumetric capacity of no more than 425L and is listed in the current CER register;

iii. is rated a medium size under AS/NZS 4234 and listed as achieving not less than the prescribed RECs value for the relevant compliance year in table 24a ; and

iv. complies with any product safety or other product performance requirements in a relevant code of practice or other relevant legislation applying to the activity.

Table 24a Activity ID 3.1 Renewable Energy Certificate (RECs) phase down adjustment table

Compliance Year	RECs for Zone 5 (HP5-AU)	m (RECs multiplier)
2022	25.2	10/9
2023	22.4	1.25
2024	19.6	10/7
2025	16.8	5/3
2026	14	2
2027	11.2	2.5
2028	8.4	10/3
2029	5.6	5
2030	2.8	10

3.1.4. Time the activity is taken to be completed

The activity is taken to be completed on the day all applicable prescribed activity requirements are completed, including but not limited to the disposal of any waste materials and the lodgement of statutory certifications for electrical, gas fitting and plumbing work.

3.1.5. Calculation of energy savings factor

The total energy savings factor in Megawatt-hours (MWh) saved in a premises for the activity is the relevant energy savings factor for the type of water heater installed, determined by using the equations prescribed in this section.

(a) The energy savings factor is calculated as—

$$Energy\ savings\ factor\ (MWh) = ESF_{base} - (ESF_{Bs} \times Bs) - (ESF_{Be} \times Be)$$

Where—

i. ESF_{base}, ESF_{Bs} and ESF_{Be} are the activity energy savings values prescribed in table 25 for the system size and type as determined in accordance with AS/NZS 4234 based on the system's peak daily thermal energy load delivery characteristics;

ii. *Bs* is the annual supplementary purchased energy consumption used by a high efficiency water heater to directly heat water in Gigajoules per year (GJ/Yr) as determined in the performance evaluation process in AS/NZS 4234 and as recorded in the register of products for the activity; and

iii. *Be* is the annual electrical energy used by auxiliary equipment integral to the water heater other than resistive heating units in Gigajoules per year (GJ/Yr) as determined in the performance evaluation process in AS/NZS 4234 and as recorded in the register of products for the activity.

(b) For medium sized heat pump water heaters, the energy savings factor is calculated as—

$$Energy\ savings\ factor\ (MWh) = ESF_{base} - (ESF_{Bs} \times Bs) - (ESF_{Be} \times Be)$$

Where—

i. ESF_{base}, ESF_{Bs} and ESF_{Be} are the activity energy savings values prescribed in table 25 for the system size and type as determined in accordance with AS/NZS 4234 based on the system's peak daily thermal energy load delivery characteristics;

ii. *Be* is 0 (for medium size heat pump systems only); and

iii. *Bs* is (1 – (RECs × m) × 0.0214) × 16.67 (for medium size heat pump systems only) in GJ.

Where:

- *RECs* is the number of certificates for an installation in Zone 5 for the specific model as listed by the CER in the register of air source heat pumps with a volumetric capacity of no more than 425 L and where the number of RECs is greater than or equal to the prescribed RECs value for the relevant compliance year in table 24a.
- m is the RECs multiplier and is perscribed for the relevant compliance year in table 24a

Table 25 Activity ID 3.1 energy savings values for a specified high efficiency water heater replacing an electric resistance water heater

Activity ID	**New system size and type**	**ESF_{base}**	**ESF_{Bs}**	**ESF_{Be}**
3.1(a)	Solar electric small (25.2 MJ/day or 120 litres/day)	29.981	2.917	2.917
3.1(b)	Solar electric medium (42 MJ/day or 121 to 200 litres/day)	48.609	2.917	2.917
3.1(c)	Electric heat pump medium (42 MJ/day or 200 litres/day)	48.609	2.917	2.917

Note Large or very large systems may be installed but the maximum credit available is for a medium system.

3.2. Decommission a gas or liquefied petroleum gas water heater and install a specified high efficiency water heater

3.2.1. Activity definition

Activity ID 3.2 – In accordance with the prescribed minimum activity performance specifications, decommissioning a natural gas or liquefied petroleum gas water heater in a hot water system servicing sanitary fixtures and appliances, which does not meet the installed product requirements in section 3.2.3, and installing a specified high efficiency water heater.

(c) **Activity ID 3.2(a)** – Solar electric small (25.2 MJ/day or 120 litres/day); or

(d) **Activity ID 3.2(b)** – Solar electric medium (42 MJ/day or 121 to 200 litres/day); or

(e) **Activity ID 3.2(c)** – Electric heat pump medium (42 MJ/day or 200 litres/day).

Note 1 These categories are further defined in section 3.2.5, table 26.

Note 2 The numbering system used above relates to the tables in section 3.2.5.

3.2.2. Minimum activity performance specifications

To be an eligible activity the activity must**—**

(a) be undertaken at an eligible residential premises or an eligible business premises with an existing LPG or gas water heater (excluding solar);

(b) be undertaken using a product or products meeting the installed product requirements in section 3.2.3;

(c) be completed and certified in accordance with the relevant code or codes of practice and other relevant legislation applying to the activity, including any licensing, registration, statutory approval, activity certification, health, safety, environmental or waste disposal requirements; and

(d) be recorded in accordance with any relevant code of practice for the activity.

Note All activities are subject to independent inspection or audit to confirm compliance with prescribed activity requirements.

3.2.3. Installed product requirements

A specified high efficiency water heater for this activity includes any of the following water heater options as set out in (a) or (b) below.

(a) An electric boosted solar water heater that—

i. is certified by a relevant accredited body to AS/NZS 2712;

ii. achieves minimum energy performance of 60 per cent solar contribution in climate zone 4 as determined in accordance with AS/NZS 4234;

iii. is listed in the register of products for the activity; and

iv. complies with any product safety or other product performance requirements in a relevant code of practice or other relevant legislation applying to the activity.

(b) An electric heat pump water heater that—

i. has been tested in accordance with AS/NZS 5125 ;

ii. is registered with the Clean Energy Regulator (CER) as an air source heat pump with a volumetric capacity of no more than 425L and is listed in the current CER register;

iii. is rated a medium size under AS/NZS 4234 and listed as achieving not less than the prescribed RECs value for the relevant compliance year in table 25a; and

iv. complies with any product safety or other product performance requirements in a relevant code of practice or other relevant legislation applying to the activity.

Table 25a Activity ID 3.2 Renewable Energy Certificate (RECs) phase down adjustment table

Compliance Year	**RECs for Zone 5** (HP5-AU)	**m (RECs multiplier)**
2022	25.2	10/9
2023	22.4	1.25
2024	19.6	10/7
2025	16.8	5/3
2026	14	2
2027	11.2	2.5
2028	8.4	10/3
2029	5.6	5
2030	2.8	10

3.2.4. Time the activity is taken to be completed

The activity is taken to be completed on the day all applicable prescribed activity requirements are completed, including but not limited to the disposal of any waste materials and the lodgement of statutory certifications for gas fitting and plumbing work.

3.2.5. Calculation of energy savings factor

The total energy savings factor in Megawatt-hours (MWh) saved in a premises for the activity is the relevant energy savings factor for the type of water heater installed, determined by using the equations prescribed in this section.

(a) The energy savings factor is calculated as—

$$Energy\ savings\ factor\ (MWh) = ESF_{base} - (ESF_{Bs} \times Bs) - (ESF_{Be} \times Be)$$

Where —

i. ESF_{base}, ESF_{Bs} and ESF_{Be} are the activity energy savings values prescribed in table 26 for the system size and type as determined in

accordance with AS/NZS 4234 based on the system's peak daily thermal energy load delivery characteristics;

ii. *Bs* is the annual supplementary purchased energy consumption used by a high efficiency water heater to directly heat water in Gigajoules per year (GJ/Yr) as determined in the performance evaluation process in AS/NZS 4234 and as recorded in the register of products for the activity; and

iii. *Be* is the annual electrical energy used by auxiliary equipment integral to the water heater other than resistive heating units in Gigajoules per year (GJ/Yr) as determined in the performance evaluation process in AS/NZS 4234 and as recorded in the register of product for the activity.

(b) For medium sized heat pump water heaters, the energy savings factor is calculated as—

$$Energy\ savings\ factor\ (MWh) = ESF_{base} - (ESF_{Bs} \times Bs) - (ESF_{Be} \times Be)$$

Where —

i. ESF_{base}, ESF_{Bs} and ESF_{Be} are the activity energy savings values prescribed in table 26 for the system size and type as determined in accordance with AS/NZS 4234 based on the system's peak daily thermal energy load delivery characteristics;

ii. *Be* is 0 (for medium size heat pump systems only); and

iii. *Bs* is (1 – (RECs × m) × 0.0214) × 16.67 (for medium size heat pump systems only) in GJ

Where:

- *RECs* is the number of certificates for an installation in Zone 5 for the specific model as listed by the CER in the register of air source heat pumps with a volumetric capacity of no more than 425L and where the number of RECs is greater than or equal to the prescribed RECs value for the relevant compliance year in table 25a.
- m is the RECs multiplier and is perscribed for the relevant compliance year in table 25a.

Table 26 Activity ID 3.2 energy savings values for a specified high efficiency water heater replacing a gas water heater

Activity ID	**New system size and type**	**ESF_{base}**	**ESF_{Bs}**	**ESF_{Be}**
3.2(a)	Solar electric small (25.2 MJ/day or 120 litres/day)	41.632	2.917	2.917
3.2(b)	Solar electric medium (MJ/day or 121 to 200 litres/day)	60.920	2.917	2.917
3.2(c)	Electric heat pump medium (42 MJ/day or 200 litres/day)	60.920	2.917	2.917

3.3. Replace an existing shower fixture outlet with a low flow shower fixture outlet

3.3.1. Activity definition

Activity ID 3.3 – In accordance with the prescribed minimum activity performance specifications, removing a shower fixture outlet or outlets with a flow rate of greater than 9 litres per minute and replacing with a shower fixture outlet or outlets with a WELS rated flow rate of 9 litres per minute or less.

(c) **Activity ID 3.3(a)** – Over 6.0 and not more than 9.0 litres/minute; or

(d) **Activity ID 3.3(b)** – Not more than 6.0 litres/minute.

Note 1 These categories are further defined in section 3.3.5, table 27.

Note 2 The numbering system used above relates to the tables in section 3.3.5.

3.3.2. Minimum activity performance specifications

To be an eligible activity the activity must—

(a) be undertaken at an eligible residential premises or an eligible business premises;

(b) be undertaken using a product or products meeting the installed product requirements in section 3.3.3;

(c) be completed and certified in accordance with the relevant code or codes of practice and other relevant legislation applying to the activity, including any licensing, registration, statutory approval, activity certification, health, safety, environmental or waste disposal requirements; and

(d) be recorded in accordance with any relevant code of practice for the activity.

Note All activities are subject to independent inspection or audit to confirm compliance with prescribed activity requirements.

3.3.3. Installed product requirements

An installed product must be a shower fixture outlet, including the shower head, flow restrictor and any other components integral to and supplied with the fixture that—

(a) complies with the requirements of AS/NZS 3662;

(b) achieves maximum flow rate of 9 litres per minute or less and a minimum water efficiency rating of 3 stars when assessed and labelled in accordance with AS/NZS 6400;

(c) carries a mark from a relevant accredited body certifying that the shower fixture outlet complies with the plumbing code;

(d) complies with any product safety or other product performance requirements in a relevant code of practice or other relevant legislation applying to the activity; and

(e) if undertaken at a residential premises, is undertaken on a maximum of two shower fixtures in a single premises including the showers with the highest usage rates according to the occupant.

3.3.4. Time the activity is taken to be completed

The activity is taken to be completed on the day all applicable prescribed activity requirements are completed, including but not limited to the disposal of any waste materials and lodgement of all statutory certifications for plumbing work.

3.3.5. Calculation of energy savings factor

The total energy savings factor in Megawatt-hours (MWh) saved in a premises must be determined by using the equation prescribed in this section.

(a) The energy savings factor for the activity is calculated as—

Energy savings factor (MWh) = ESF x N

Where—

i. *ESF* is the relevant activity energy savings value prescribed for the WELS rated flow rate of the shower head in table 27; and

ii. *N* is the number of shower fixture outlets installed in the premises with a maximum value of two in a residential premises.

Table 27 Activity ID 3.3 energy savings values for low flow shower fixtures

Activity ID	**Product WELS rated flow rate**	**Activity Energy savings Value (MWh)**
3.3(a)	Over 6.0 and not more than 9.0 litres/minute	2.818
3.3(b)	Not more than 6.0 litres/minute	4.160

4. Lighting activities

4.1. Residential lighting activities

4.1.1. Activity definition

In accordance with the prescribed minimum activity performance specifications, installing one or more of—

(a) **Activity ID 4.1(a)** – light emitting diode (LED) in place of a mains voltage incandescent general lighting service (GLS) lamp of at least 25 watts (tungsten filament type) or 18 watts (tungsten halogen type);

(b) **Activity ID 4.1(b)** – LED lamp in place of a mains voltage incandescent reflector lamp;

(c) **Activity ID 4.1(c) –** LED 12 volt lamp to replace 12 volt halogen;

(d) **Activity ID 4.1(d) –** mains voltage low energy LED downlight fitting in place of existing 12 volt halogen downlight fitting; or

(e) **Activity ID 4.1(e) –** low energy LED lamp with a GU10 base in place of existing mains voltage halogen lamp of at least 35 watts with a GU10 base.

4.1.2. Minimum activity performance specifications

To be an eligible activity the activity must—

(a) be undertaken at an eligible residential or business premises;

(b) be undertaken using a product or products meeting the installed product requirements in section 4.1.3;

(c) be completed and certified in accordance with the relevant code or codes of practice and other relevant legislation applying to the activity, including any licensing, registration, statutory approval, activity certification, health, safety, environmental, waste disposal and decommissioning requirements;

(d) be recorded in accordance with any relevant code of practice for the activity; and

(e) only replace existing equipment that is in working order immediately prior to removal.

Note *All activities are subject to independent inspection or audit to confirm compliance with prescribed activity requirements.*

4.1.3. Existing and replacement equipment requirements

(a) For Activity 4.1(a), an installed product must—

i. have a light output equivalent to the replaced lamp;

ii. be an LED that complies with MEPS in accordance with AS/NZS 4847 that meets—

(1) the performance requirements for LED lamps set out in ‘Compliance Requirements’ of AS/NZS 4847; or

(2) if the Administrator determines that the performance requirements for LED lamps set out in ‘Compliance Requirements’ of AS/NZS 4847 are not applicable to the product, any other performance requirement determined by the Administrator;

iii. achieve minimum lighting source efficacy levels of—

(1) 40 lm/W where light output is less than 350 lumens;

(2) 45 lm/W where light output is 350 lumens or more, and less than 650 lumens;

(3) 52 lm/W where light output is 650 lumens or more, and less than 850 lumens; or

(4) 55 lm/W where light output is 850 lumens or more;

iv. if the lamp is to be installed in a dimmable circuit, be approved by the manufacturer as suitable for such a circuit;

v. have a minimum manufacturer's rated lifetime of 8,000 hours;

vi. have a colour temperature that is, or is capable of being set at, warm white (2700K to 3500K) or cool white (3500K to 4000K); and

vii. be listed in the register of products for the activity.

(b) For Activity 4.1(b), an installed product must—

i. have a light output equivalent to the replaced lamp;

ii. have the following characteristics—

(1) meet the performance requirements for the attributes set out in 'Compliance Requirements' of AS/NZS 4847, or if the Administrator determines that the performance requirements for attributes set out in 'Compliance Requirements' of AS/NZS 4847 are not applicable to the lamp, any other performance requirement determined by the Administrator;

(2) achieve a minimum lighting source efficacy level of 45 lm/W;

(3) have a minimum manufacturer's rated lifetime of 12,000 hours;

(4) if the lamp is to be installed in a dimmable circuit, be approved by the manufacturer as suitable for such a circuit; and

(5) have a colour temperature that is, or is capable of being set at, warm white (2700Kto 3500K) or cool white (3500K to 4000K); and

iii. be listed in the register of products for the activity.

(c) For Activity 4.1(c), an installed product must—

i. if the lamp is to be installed in a dimmable circuit, be approved by the manufacturer as suitable for such a circuit;

ii. have the following characteristics—

(1) meet the performance requirements for the attributes set out in 'Compliance Requirements' of AS/NZS 4847, or if the Administrator determines that the performance requirements for attributes set out in 'Compliance Requirements' of AS/NZS 4847 are not applicable to the lamp, any other performance requirement determined by the Administrator;

(2) achieve minimum lighting source efficacy levels of 52 lm/W;

(3) have a minimum light output of 420 lumens in the forward direction;

(4) have a minimum manufacturer's rated lifetime of 15,000 hours;

(5) have a colour temperature that is, or is capable of being set to, warm white (2700K to 3500K) or cool white (3500K to 4000K); and

(6) in the case of a product installed in residential premises, have a beam angle of not less than 50 degrees when determined in accordance with IEC TR 61341; and

iii. be listed in the register of products for the activity.

(d) For Activity 4.1(d), an installed product must—

i. if the downlight fitting and LED lamp are to be installed in a dimmable circuit, be approved by the manufacturer as suitable for such a circuit;

ii. use a lamp that has the following characteristics—

(1) meet the performance requirements for the attributes set out in 'Compliance Requirements' of AS/NZS 4847, or if the Administrator determines that the performance requirements for attributes set out 'Compliance Requirements' of AS/NZS 4847 are not applicable to the lamp, any other performance requirement determined by the Administrator;

(2) achieve a minimum lighting source efficacy of 48 lm/W;

(3) have a minimum light output of 400 lumens in the forward direction;

(4) have a minimum manufacturer's rated lifetime of 15,000 hours;

(5) have a colour temperature that is, or is capable of being set to warm white (2700K to 3500K) or cool white (3500K to 4000K); and

(6) in the case of a product installed in residential premises, have a beam angle of not less than 40 degrees when determined in accordance with IEC TR 61341; and

iii. be listed in the register of products for the activity.

(e) For Activity 4.1(e), an installed product must—

i. if the lamp is to be installed in a dimmable circuit, be approved by the manufacturer as suitable for such a circuit;

ii. have the following characteristics—

(1) meet the performance requirements for the attributes set out in 'Compliance Requirements' of AS/NZS 4847, or if the Administrator determines that the performance requirements for attributes set out in 'Compliance Requirements' of AS/NZS 4847 are not applicable to the lamp, any other performance requirement determined by the Administrator;

(2) achieve a minimum lighting source efficacy of 48 lm/W;

(3) have a minimum light output of 400 lumens in the forward direction;

(4) have a minimum manufacturer's rated lifetime of 15,000 hours;

(5) have a colour temperature that is, or is capable of being set at, warm white (2700K to 3500K) or cool white (3500K to 4000K); and

(6) in the case of a product installed in residential premises, has a beam angle of not less than 36 degrees when determined in accordance with IEC TR 61341; and

iii. be listed in the register of products for the activity.

4.1.4. Time the activity is taken to be completed

The activity is taken to be completed on the day all applicable prescribed activity requirements are completed, including but not limited to the disposal of any waste materials and the lodgement of all statutory certifications for any electrical work.

4.1.5. Calculation of energy savings factor

The total energy savings factor in Megawatt-hours (MWh) saved in a premises is the sum of all energy savings factors for each activity item undertaken in the premises, determined by using the equation prescribed in this section.

For each Activity 4.1(a) to 4.1(e) the energy savings factor is calculated as—

Energy savings factor (MWh) = ESF x N x PF

Where—

(a) *PF* is the power factor of the product determined in accordance with AS/NZS 4847 such that—

  i. if the power factor of the product is less than 0.9, PF has a prescribed value of 1.00; or

  ii. if the power factor of the product is 0.9 or more, PF has a prescribed value of 1.05; and

(b) for Activity 4.1(a), *ESF* is the prescribed activity energy savings value in table 28 for the relevant manufacturer's rated lifetime and efficiency level of the low energy general lighting service lamp or lamps installed determined by the lighting source efficacy level in accordance with section 4.1.3(a);

(c) for Activity 4.1(b), *ESF* is the prescribed activity energy savings value in table 29 for the relevant manufacturer's rated lifetime and efficiency level of the low energy directional lamp or lamps installed determined by the lighting source efficacy level in accordance with section 4.1.3(b);

(d) for Activity 4.1(c), *ESF* is the prescribed activity energy savings value in table 30 for the relevant manufacturer's rated lifetime and efficiency level of the low energy directional lamp or lamps installed determined by the lighting source efficacy level in accordance with section 4.1.3(c);

(e) for Activity 4.1(d), *ESF* is the prescribed activity energy savings value in table 31 for the relevant manufacturer's rated lifetime and efficiency level of the low energy directional lamp or lamps installed determined by the lighting source efficacy level in accordance with section 4.1.3(d);

(f) for Activity 4.1(e), *ESF* is the prescribed activity energy savings value in table 32 for the relevant manufacturer's rated lifetime and efficiency level of the low energy directional lamp or lamps installed determined by the lighting source efficacy level in accordance with section 4.1.3(e); and

(g) for all activity items, *N* is the number of lamps of the relevant type installed in the premises.

Note *Multiple calculations for an activity item may be required to find the energy savings factor for the item. For example, if a low energy 12 volt downlight with a manufacturer's rated lifetime of 20,000 hours, an efficacy of 75 lumens/watt and with a power factor of 1.0 (AF = 0.107 x 1 x 1.05) and three low energy reflector lamps with a manufacturer's rated lifetime of 15,000, an efficacy of 25 lumens/watt and with a power factor of 0.8 (AF = 0.082 x 3 x 1.00) are installed in a premises then the energy savings factor for each type of lamp with differing activity energy savings values, power factors and/or lighting source efficacy levels will need to be determined and summed to find the energy savings factor for the item.*

Table 28 Activity ID 4.1(a) energy savings values for installation of low energy LED lighting services in place of mains voltage incandescent general lighting services

Activity Energy savings Value MWh																
	Light Output Range (lm):	<350	350-649	650-849	850+	<350	350-649	650-849	850+	<350	350-649	650-849	850+	<350	350-649	650-849	850+
	Min Efficacy (lm/W):	40	45	52	55	48	54	62	66	58	65	75	79	69	78	90	95
Lamp Life (hours)	8000 to 9999	0.182				0.199				0.209				0.218			
	10000 to 11999	0.228				0.249				0.262				0.272			
	12000 to 14999	0.274				0.299				0.314				0.327			
	15000 to 19999	0.342				0.374				0.393				0.408			
	20000 to 24999	0.456				0.498				0.523				0.544			
	25000+	0.570				0.623				0.654				0.680			

Table 29 Activity ID 4.1(b) energy savings values for installation of a low energy LED reflector lamp in place of a mains voltage incandescent reflector lamp

Activity Energy savings Value (MWh)				
Efficacy	Min 45 lm/W	Min 54 lm/W	Min 65 lm/W	Min 78 lm/W
12000 to 14999 hrs	0.366	0.374	0.381	0.387
15000 to 19999 hrs	0.457	0.468	0.477	0.484
20000 to 24999 hrs	0.610	0.624	0.636	0.645
25000 hrs +	0.762	0.780	0.795	0.807

Table 30 Activity ID 4.1(c) energy savings values for installation of low energy LED 12 volt lamp to replace 12 volt halogen

Activity Energy savings Value (MWh)				
Efficacy	52 lm/W	62 lm/W	75 lm/W	90 lm/W
15,000 to 19,999 hrs	0.406	0.430	0.449	0.466

20,000 hrs to 24,999 hrs	0.542	0.573	0.599	0.621
25,000 hrs +	0.677	0.716	0.749	0.776

Table 31 Activity ID 4.1(d) energy savings values for installation of mains voltage low energy downlight in place of existing 12 volt halogen downlight

Activity Energy savings Value (MWh)					
Efficacy	Min 48 lm/W	Min 58 lm/W	Min 69 lm/W	Min 83 lm/W	Min 100 lm/W
15000 to 19999 hrs	0.416	0.438	0.456	0.471	0.484
20000 to 24999 hrs	0.554	0.583	0.608	0.628	0.645
25000 hrs +	0.693	0.729	0.760	0.785	0.806

Table 32 Activity ID 4.1(e) energy savings values for installation of low energy LED lamp with a GU10 base in place of existing mains voltage halogen lamp of at least 35 watts with a GU10 base

Activity Energy savings Value (MWh)					
Efficacy	Min 48 lm/W	Min 58 lm/W	Min 69 lm/W	Min 83 lm/W	Min 100 lm/W
15,000 to 19,999 hrs	0.510	0.531	0.549	0.564	0.576
20,000 hrs to 24,999 hrs	0.680	0.708	0.732	0.752	0.768
25,000 hrs +	0.850	0.885	0.915	0.940	0.960

4.2. Commercial lighting upgrade activities

4.2.1. Activity description

Activity ID 4.2 – In accordance with the prescribed minimum activity performance specifications, being the upgrade of building lighting equipment in a business premises by replacing it with more efficient lighting equipment.

4.2.2. Minimum activity performance specifications

To be an eligible activity the activity must—

(a) be undertaken at an eligible business premises;

(b) the premises must be a building which is classified under the National Construction Code as either Class 3, 5, 6, 7, 8, 9, 10 or the Common Areas of Class 2;

Note For detailed explanation of Classes 3–10 in the National Construction Code see NSW Energy Saving Scheme (ESS) Commercial Lighting Method – Appendix A.

(c) only replace existing lighting equipment that is in working order immediately prior to removal;

(d) not be undertaken as part of development or refurbishment requiring development approval under the Planning Act 2023;

(e) be completed and certified in accordance with the relevant code or codes of practice and other relevant legislation applying to the activity, including any licensing, registration, statutory approval, activity certification, health, safety, environmental, waste disposal and decommissioning requirements; and

(f) be recorded in accordance with any relevant code of practice for the activity.

4.2.3. Installed product requirements

4.2.3.1. Energy efficiency

Installed lamp and luminaire products must, at the time of installation, be—

(a) listed on the Victorian Energy Efficiency Target (VEET) Scheme product register where the activity involves LED linear tube modified luminaires; or

(b) listed on the public list of accepted Emerging Lighting Technologies (ELTs) as published by the NSW Energy Saving Scheme (ESS) Administrator for all other luminaire types.

Note 1 Eligible products under the NSW Energy Savings scheme include products of a class listed in the following:

- *NSW 'Energy Savings Scheme Rule of 2009, Effective from 28 April 2017' Schedule A – Table A9.1 Standard Equipment Classes for Lighting Upgrades, or Table A9.3 Other Equipment Classes for Lighting Upgrades, or a current rule that supersedes these.*

Note 2 If a lamp or luminaire product is suspended either by the ESS or VEET schemes then it is no longer an eligible product under the EEIS commercial lighting activity.

4.2.3.2. Standards

Installed products must also—

(a) comply with all relevant requirements of AS/NZS 60598 (for LED linear tube products that must comply with 4.2.3.1(a));

(b) comply with the requirements in AS/NZS 4783 (for control gear for linear fluorescent lamps manufactured in, or imported into, Australia);

(c) comply with all applicable mandatory safety, electromagnetic compatibility, performance and efficiency standards;

(d) be supplied with a minimum of five years product warranty for all high-bay lighting and a minimum of three years product and replacement warranty of all other lighting types.

4.2.3.3. Unacceptable products

The following types of lamp and luminaire products may not be installed—

(a) portable lighting or desk lamps;

(b) T5 adaptor kits (including installing new lamps into existing T5 adaptor kit fittings);

(c) heat lamps; or

(d) retrofitting fluorescent luminaires with LED linear lamps without modifications.

Note *(d) LED linear lamps, listed on the VEET or NSW Energy Saving Scheme registers for approved modified linear LED luminaires can be used as modified luminaire replacements for linear fluorescent luminaires. This is where a T5, T8 or T12 luminaire has been modified to be replaced with an LED linear lamp. This involves modifying and removing the ballast, capacitor and any wiring or structure of the fluorescent luminaire, beyond the replacement of a starter. The method and details of modifications must first be approved by the administrator.*

4.2.4. Time the activity is taken to be completed

The activity is taken to be completed on the day all applicable prescribed activity requirements are completed, including but not limited to the disposal of any waste materials and the lodgement of all statutory certifications for any electrical work.

4.2.5. Calculation of energy savings factor

(a) The total energy savings factor in Megawatt-hours (MWh) saved for the activity is calculated as—

$$Energy\ Savings\ factor\ (MWh) = ESF \times Energy\ Savings$$

Where—

i. *ESF* is the relevant activity energy savings value and is equal to 1.0

ii. *Energy Savings* is the total energy savings, in megawatt-hours (MWh), calculated in accordance with clause 9.4 of the ESS Rule;

iii. *Energy Savings* will be calculated using Equations 6A, 7A and 9A of the commercial lighting energy savings formula in section 9 of the NSW Energy Savings Scheme Rule of 2009. This will be done using the ESS Commercial Lighting Calculation Tool as current at the time the activity is undertaken; and

iv. calculations will use the factors and values from Schedule A – Default Factors and Classifications of the NSW 'Energy Savings Scheme' Rule of 2009, where linear florescent luminaires are modified to accept linear LED tubes, energy saving will be calculated using the ESS Commercial Lighting Calculation Tool using the lighting category 'Modified Luminaire LED Linear Lamp'.

Note 1 *The ESS Commercial Lighting Calculation Tool is published by the ESS Administrator on the ESS Commercial Lighting website (http://www.ess.nsw.gov.au/Methods_for_calculating_energy_savings/Commercial_Lighting).*

Note 2 *Further explanation on energy savings calculation methods is outlined in the NSW ESS Commercial Lighting Method Guide – see Appendix C.*

5. Appliance activities

5.1. Decommissioning and disposal of refrigerator or freezer

5.1.1. Activity definition

Activity ID 5.1 – In accordance with the prescribed minimum activity performance specifications, removing a refrigerator or freezer in working order from a premises and destroying the refrigerator or freezer.

(b) **Activity ID 5.1(a)** – 1-door refrigerator or freezer; or

(c) **Activity ID 5.1(b)** – 2-door refrigerator or freezer; or

Note 1 These categories are further defined in section 5.1.4, table 33.

Note 2 The numbering system used above relates to the tables in section 5.1.4.

5.1.2. Minimum activity performance specifications

To be an eligible activity the activity must—

(a) be undertaken at an eligible residential or business premises;

(b) be undertaken on a refrigerator or freezer that is currently in working order;

(c) result in the refrigerator or freezer being destroyed by the disposal, in accordance with the *Ozone Protection and Synthetic Greenhouse Gas Management Act 1989* (Commonwealth), of scheduled substances within the meaning of that Act;

(d) be completed and certified in accordance with the relevant code or codes of practice and other relevant legislation applying to the activity, including any licensing, registration, statutory approval, activity certification, health, safety, environmental or waste disposal requirements; and

(e) be recorded in accordance with any relevant code of practice for the activity.

Note All activities are subject to independent inspection or audit to confirm compliance with prescribed activity requirements.

5.1.3. Time the activity is taken to be completed

The activity is taken to be completed on the day all applicable prescribed activity requirements are completed.

5.1.4. Calculation of energy savings factor

The total energy savings factor in Megawatt-hours (MWh) saved in a premises is the sum of all energy savings factors for each refrigerator or freezer destroyed, determined by using the equations prescribed in this section.

(a) The energy savings factor for each refrigerator or freezer is calculated by—

$$Energy\ savings\ factor\ (MWh) = ESF$$

Where—

i. *ESF* is the relevant activity energy savings value prescribed in table 33 for the type of refrigerator or freezer destroyed.

Table 33 Activity ID 5.1 energy savings values for type of refrigerator or freezer destroyed

Activity ID	**Type of refrigerating appliance (see note below)**	**Activity Energy savings Value (MWh)**
5.1(a)	1-door refrigerator or freezer	3.377
5.1(b)	2-door refrigerator or freezer	6.042

Note:

A refrigerator is defined as Group 1, 4, 5B, 5S or 5T refrigerating appliance as defined by Greenhouse and Energy Minimum Standards (Household Refrigerating Appliances) Determination 2019 (Cth)

A freezer is defined as Group 6C, 6U or 7 refrigerating appliance as defined by Greenhouse and Energy Minimum Standards (Household Refrigerating Appliances) Determination 2019 (Cth) .

5.2. Purchase of high efficiency refrigerator or freezer

5.2.1. Activity definition

In accordance with the prescribed minimum activity performance specifications, purchase for installation in a premises of a high efficiency—

(a) **Activity ID 5.2(a)** – single door refrigerator;

(b) **Activity ID 5.2(b)** – two door refrigerator;

(c) **Activity ID 5.2(c)** – chest freezer; or

(d) **Activity ID 5.2(d)** – upright freezer.

5.2.2. Minimum activity performance specifications

To be an eligible activity—

(a) the product or products must be purchased by a resident of the ACT for installation and use in a residential or business premises within the ACT;

(b) it must be undertaken using a product or products meeting the installed product requirements in section 5.2.3;

(c) the activity must be completed and certified in accordance with the relevant code of practice and other relevant legislation for the activity; and

(d) it must be recorded in accordance with any relevant code of practice for the activity.

Note *All activities are subject to independent inspection or audit to confirm compliance with prescribed activity requirements.*

5.2.3. Installed product requirements

5.2.3.1. All products

General requirements for all products**—**

(a) the product has valid registration with an Australian or New Zealand energy regulator and has a registration status of “Approved” at the time of sale;

(b) the refrigerating appliance shall not have a designation of cooled appliance under AS/NZS 4474;

(c) the refrigerating appliance shall not be a wine storage appliance or have any compartment that is intended exclusively for wine or beverage storage; and

(d) the product is on the register of products for the activity.

5.2.3.2. Individual products in each Group

Specific requirements for individual products in each Group as defined by AS/NZS 4474—

(a) has a total gross volume as determined in accordance with AS/NZS 4474 of not less than the value specified in table 34 and not more than the value specified in table 34;

(b) has a minimum star rating index as determined in accordance with AS/NZS 4474 of not less than the value specified in table 34; and

(c) is on the register of products for the activity.

Note *Refrigerator and freezer group definitions (https://www.energyrating.gov.au/industry-information/products/household-refrigerators-and-freezers).*

5.2.4. Time the activity is taken to be completed

The activity is taken to be completed on the day all applicable prescribed activity requirements are completed.

5.2.5. Calculation of energy savings factor

The total energy savings factor Megawatt-hours (MWh) saved in a premises is the sum of all energy savings factors for each refrigerator or freezer purchased for the premises, determined by using the equations prescribed in this section.

The energy savings factor is calculated by—

$$Energy\ savings\ factor\ (MWh) = [(C_f + C_v \times V_{adj}^{0.67}) \times (1 - ERF)^{(SRIbaseline - 1)} - CEC] \times Usage \times ESF$$

Where—

i. C_f is the fixed factor for energy labelling for the relevant Group as set out in table 34;

ii. C_v is the variable factor for energy labelling for the relevant Group as set out in table 34;

iii. V_{adj} is the total adjusted volume in litres as recorded on the GEMS register for the model;

iv. *ERF* is the energy reduction factor, which is equal to 0.23 for all Groups;

v. *SRIbaseline* is the baseline star rating index for the relevant Group as set out in table 34

vi. *CEC* is the comparative energy consumption specified on energy rating label as defined by AS/NZS 4474 and as recorded in the GEMS register for the model;

vii. *Usage* is the usage factor for the relevant Group as set out in table 34; and

viii. *ESF* is the energy savings factor for electricity and the specific lifetime for the relevant Group as set out in table 34.

Table 34 Activity ID 5.2 factors used to calculate energy savings factors for refrigerators and freezers

Activity ID and Sub-Activities	**Group**	**Min Star Rating**	**Min size litres**	**Max size litres**	**Labelling C_f kWh/y**	**Labelling C_v kWh/y/L**	***ERF***	**$SRI_{baseline}$**	***Usage***	***ESF***
5.2(a) single door refrigerator	1	2.5	100	700	200	4	0.23	2.25	0.85	0.017
5.2(a) single door	2	N/A	N/A	N/A	200	4	0.23	N/A	N/A	N/A

Activity ID and Sub-Activities	Group	Min Star Rating	Min size litres	Max size litres	Labelling C_f kWh/y	Labelling C_v kWh/y/L	*ERF*	$SRI_{baseline}$	*Usage*	*ESF*
refrigerator manual defrost										
5.2(a) single door refrigerator with frozen food compartment	3	N/A	N/A	N/A	200	4	0.23	N/A	N/A	N/A
5.2(b) two door refrigerator	4	3.5	100	700	150	8.8	0.23	3.25	0.85	0.017
	5T	3.5	100	700	150	8.8	0.23	3.25	0.85	0.017
	5B	3.5	100	700	150	8.8	0.23	3.25	0.85	0.017
	5S	3.5	100	700	150	8.8	0.23	3.25	0.85	0.017
5.2(c) chest freezer	6C	3.5	100	700	150	7.5	0.23	3.27	0.80	0.021
5.2(d) upright freezer	6U	3.0	100	700	150	7.5	0.23	2.82	0.80	0.021
	7	3.0	100	700	150	7.5	0.23	2.82	0.80	0.021

5.3. Purchase of high efficiency electric clothes dryer

5.3.1. Activity definition

Activity ID 5.3 – In accordance with the prescribed minimum activity performance specifications, purchase for installation in a premises of a high efficiency clothes dryer.

5.3.2. Minimum activity performance specifications

To be an eligible activity—

(a) the product or products must be purchased by a resident of the ACT for installation and use in a residential or business premises;

(b) the activity must be undertaken using a product or products meeting the installed product requirements in section 5.3.3;

(c) the activity must be completed and certified in accordance with the relevant code of practice and other relevant legislation for the activity; and

(d) it must be recorded in accordance with any relevant code of practice for the activity.

Note *All activities are subject to independent inspection or audit to confirm compliance with prescribed activity requirements.*

5.3.3. Installed product requirements

A product purchased for installation must be an electric clothes dryer or combination washer-dryer with heat pump dryer that—

(a) has valid registration with an Australian or New Zealand energy regulator for energy labelling in accordance with AS/NZS 2442 and has a registration status of "Approved" at the time of sale;

(b) in the case of a stand-alone dryer, achieves a minimum energy efficiency rating of 7 stars when tested in accordance with AS/NZS 2442;

(c) in the case of a combination washer-dryer, uses heat pump technology for drying the clothes and achieves a minimum energy efficiency rating of 6.5 stars when tested in accordance with AS/NZS 2442;

(d) is listed in the register of eligible products for the activity; and

(e) complies with any product safety or other product performance requirement prescribed in a relevant code of practice or other relevant legislation applying to the activity.

5.3.4. Time the activity is taken to be completed

The activity is taken to be completed on the day all applicable prescribed activity requirements are completed.

5.3.5. Calculation of energy savings factor

The energy savings factor in Megawatt-hours (MWh) saved in a premises must be determined by using the equation prescribed in this section.

(a) The energy savings factor for the activity is calculated by—

$$Energy\ savings\ factor\ (MWh) = [(Rated\ Capacity \times 53) \times (1 - ERF)^{(SRIbaseline - 1)} - CEC] \times Usage \times ESF$$

Where—

i. *RatedCapacity* is measured in kilograms and defined by AS/NZS 2442;

ii. *ERF* is the energy reduction factor and is equal to 0.15 for dryers;

iii. *CEC* is the comparative energy consumption and is measured in kilowatt hours per year (kWh/y) specified on the energy rating label as defined by AS/NZS 2442;

iv. $SRI_{baseline}$ is the baseline star rating index for dryers and is equal to a value of 2.53;

v. *Usage* is the usage factor for the usage and loading of dryers and is equal to a value of 1.192; and

vi. *ESF* is the energy savings factor for electricity and the specific lifetime for the dryer and is equal to a value of 0.012.

5.4. Purchase of a high efficiency television

5.4.1. Activity definition

Activity ID 5.4 – In accordance with the prescribed minimum activity performance specifications, purchase for installation in a premises a high efficiency television.

5.4.2. Minimum activity performance specifications

To be an eligible activity—

(a) the activity must be undertaken using a product or products meeting the installed product requirements in section 5.4.3;

(b) the product or products must be purchased by a resident of the ACT for installation and use in a residential or business premises;

(c) the activity must be completed and certified in accordance with the relevant code of practice and other relevant legislation for the activity; and

(d) it must be recorded in accordance with any relevant code of practice for the activity.

Note *All activities are subject to independent inspection or audit to confirm compliance with prescribed activity requirements.*

5.4.3. Installed product requirements

An installed product must be a television that—

(a) is registered for energy labelling in accordance with AS/NZS 62087; and

(b) has a minimum star rating of 7 stars as determined in accordance with AS/NZS 62087

5.4.4. Time the activity is taken to be completed

The activity is taken to be completed on the day all applicable prescribed activity requirements are completed.

5.4.5. Calculation of energy savings factor

The total energy savings factor in Megawatt-hours (MWh) saved in a premises must be determined by using the equation prescribed in this section.

(a) The energy savings factor for the activity is calculated by—

i. for televisions with a registered screen area of not more than 7221cm2:

$$\text{Energy savings factor (MWh)} = (0.36636 \times [SA \times 0.09344 + 65.408] - CEC) \times 0.0055$$

ii. for televisions with a registered screen area of greater that 7221cm2:

$$\text{Energy savings factor (MWh)} = (270 - CEC) \times 0.006$$

Where—

(1) *SA* is the area of the screen in square centimetres as defined in AS/NZS 62087; and

(2) *CEC* is the comparative energy consumption in kWh/y specified on the energy rating label as defined by AS/NZS 62087.

5.5. Install a standby power controller (*Revoked*)

5.6. Install a high efficiency swimming pool pump

5.6.1. Activity definition

Activity ID 5.6 – In accordance with the prescribed minimum activity performance specifications, install a high efficiency pool pump with a minimum energy efficiency rating (***star rating***) of 7 to a swimming pool or spa in a residential or an eligible business premises.

5.6.2. Minimum activity performance specifications

To be an eligible activity, the activity must—

(a) be undertaken at an eligible residential or business premises;

(b) be undertaken using a product meeting the installed product requirements in section 5.6.3;

(c) be completed and certified in accordance with the relevant code or codes of practice and other relevant legislation applying to the activity, including any licensing, registration, statutory approval, activity certification, health, safety, environmental or waste disposal requirements; and

(d) be recorded in accordance with any relevant code of practice for the activity.

Note *All activities are subject to independent inspection or audit to confirm compliance with prescribed activity requirements.*

5.6.3. Installed product requirements

5.6.3.1. Pool pump

An installed product must be a pool pump for use with a domestic pool or spa that is—

(a) a single phase, single speed, dual speed, multiple speed or variable speed pump unit with an input power of not less than 100W and not more than 1500W when tested in accordance with AS 5102.1; and/or

(b) for pool pumps installed from calendar year 2018, pool pump controllers that comply with AS/NZS 4755.3.2;

5.6.3.2. Other requirements

An installed product must also be—

(a) listed as part of a labelling scheme determined in accordance with the *Greenhouse and Energy Minimum Standards (Swimming Pool Pump-units) Determination 2021* and achieves a minimum energy efficiency rating of 7 stars when determined in accordance with AS 5102.1; or

(b) registered for energy labelling and achieves a minimum rating of 7 stars hen determined in accordance with AS 5102.1.

5.6.4. Time the activity is taken to be completed

The activity is taken to be completed on the day all applicable prescribed activity requirements are completed.

5.6.5. Calculation of energy savings factor

The total energy savings factor in Megawatt-hours (MWh) saved in a premises must be determined by using the equation prescribed in this section.

(a) The energy savings factor for the activity is calculated by—

$$\textit{Energy savings factor (MWh)} = (1160.8 - PAEC) \times 0.007$$

Where—

i. *PAEC* is the projected annual energy consumption in kWh/y listed on the energy rating label.

5.7. High efficiency refrigerated display cabinet activities

5.7.1. Activity description

Activity ID 5.7 – Installing a refrigerated display cabinet that is rated as 'high efficiency' within the meaning of the AS 1731 series of standards.

5.7.2. Minimum activity performance specifications

To be an eligible activity—

(a) the product or products must be for installation and use in a business premises within the ACT;

(b) the activity must be undertaken using a product or products meeting the installed product requirements in section 5.7.3; and

(c) the activity must be—

i. conducted in accordance with any relevant code or code of practice, including health, safety, environmental or waste disposal requirements; and

ii. recorded in accordance with any relevant code of practice for the activity.

5.7.3. Installed product requirements

(a) The product or products must be—

i. rated as 'high efficiency' within the meaning of the AS 1731 series of standards when tested in accordance with the AS 1731 series of standards as applicable; and

ii. listed in the register of products for the activity.

(b) The product or products must not—

i. include retrofitting of existing refrigeration equipment, unless the components are compliant with the equipment manufacturer's specification.

5.7.4. Time the activity is taken to be completed

The activity is taken to be completed on the day all applicable prescribed activity requirements are completed.

5.7.5. Calculation of energy savings factor

(a) The total energy savings factor in Megawatt-hours (MWh) saved for the activity is calculated as—

$$Energy\ savings\ factor\ (MWh) = ESF \times TDA$$

Where—

i. *ESF* is the relevant activity energy savings value as prescribed in table 35 for the particular refrigerated display cabinet type as defined in the AS 1731 series of standards; and

ii. *TDA* is the Total Display Area of the Refrigerated Display Cabinet as defined in the AS 1731 series of standards.

Table 35 Activity ID 5.7 energy savings values by type of refrigerated display cabinets

Activity ID	**Refrigerated display cabinet type and sub-class**	**Activity Energy savings Value (MWh)**
5.7(RS1 – Unlit shelves)	RS1 – Unlit shelves	9.764
5.7(RS1 – Lit shelves)	RS1 – Lit shelves	16.586
5.7(RS2 – Unlit shelves)	RS2 – Unlit shelves	9.905
5.7(RS2 – Lit shelves)	RS2 – Lit shelves	13.222
5.7(RS3 – Unlit shelves)	RS3 – Unlit shelves	10.559
5.7(RS3 – Lit shelves)	RS3 – Lit shelves	14.320
5.7(RS4 – Glass door)	RS4 – Glass door	6.915
5.7(RS6 – Gravity coil)	RS6 – Gravity coil	10.115
5.7(RS6 – Fan coil)	RS6 – Fan coil	10.068
5.7(RS7 – Fan coil)	RS7 – Fan coil	11.516
5.7(RS8 – Gravity coil)	RS8 – Gravity coil	8.713
5.7(RS8 – Fan coil)	RS8 – Fan coil	9.391
5.7(RS9 – Fan coil)	RS9 – Fan coil	9.414
5.7(RS10 – Low)	RS10 – Low	13.268
5.7(RS11)	RS11	27.121
5.7(RS12)	RS12	47.164
5.7(RS13 – Solid sided)	RS13 – Solid sided	15.161
5.7(RS13 – Glass sided)	RS13 – Glass sided	13.923
5.7(RS14 – Solid sided)	RS14 – Solid sided	9.437
5.7(RS14 – Glass sided)	RS14 – Glass sided	56.578
5.7(RS15 – Glass door)	RS15 – Glass door	22.589

Activity ID	Refrigerated display cabinet type and sub-class	Activity Energy savings Value (MWh)
5.7(RS16 – Glass door)	RS16 – Glass door	24.715
5.7(RS18)	RS18	20.627
5.7(RS19)	RS19	15.371
	Self-contained type refrigerated display cabinets [1]	
5.7(HC1)	HC1	7.008
5.7(HC4)	HC4	9.578
5.7(VC1)	VC1	20.206
5.7(VC2)	VC2	16.118
5.7(VC4 – solid door)	VC4 – solid door	23.243
5.7(VC4 – glass door)	VC4 – glass door	15.301
5.7(HF4)	HF4	16.352
5.7(HF6)	HF6	4.906
5.7(VF4 – solid door)	VF4 – solid door	25.579
5.7(VF4 – glass door)	VF4 – glass door	25.579

Note *This activity applies only to M-package temperature classes M1, M2, L1 and L2 (as applicable) as defined in the AS 1731 series of standards.*

6. Dictionary

Note 1 *This dictionary should be used for the interpretation of provisions for eligible activities described in this instrument.*

Note 2 *Other terms may apply to this instrument. Terms not defined in this dictionary but defined in associated legislation have the same meaning as that legislation unless it is evident a contrary meaning is intended.*

accredited body, in relation to a product, means a conformity assessment body or other body accredited under Territory law or the Joint Accreditation System of Australia and New Zealand to give product certification or component certification of certain products.

Active State, in relation to a computer, means a state in which the computer is carrying out useful work in response to prior or concurrent—

(a) user input; or

(b) instruction over a network.

activity certification means the certification prepared by a person or people involved in carrying out an activity declaring compliance with relevant activity eligibility requirements and includes any statutory certifications required under another law of the Territory.

air sealing means sealing of openings between materials in a building to minimise air leakage from and air infiltration between rooms in a building, but not necessarily to exclude rain or other effects of weather.

ANSI A100.1 means the *American National Standard for Safety of Window Covering Products* as in force from time to time.

approved laboratory means a laboratory that is accredited by the National Association of Testing Authorities or registered by an authority recognised by the National Association of Testing Authorities under a mutual recognition agreement.

AS 1288 means the relevant parts of Australian Standard 1288 as in force from time to time.

AS 1530 means the relevant parts of Australian Standard 1530 as in force from time to time.

AS 1731 means the relevant parts of Australian Standard 1731 as in force from time to time

AS 2047 means the relevant parts of Australian Standard 2047 as in force from time to time.

AS 3999 means the relevant parts of Australian Standard 3999 as in force from time to time.

AS 4254 means the relevant parts of Australian Standard 4254 as in force from time to time.

AS/NZS 3662 means the relevant parts of Australian/New Zealand Standard 3662 as in force from time to time.

AS/NZS 3823 means the relevant parts of Australian/New Zealand Standard 3823 as in force from time to time.

AS/NZS 4234 means the relevant parts of Australian/New Zealand Standard 4234 as in force from time to time.

AS/NZS 4755 means the relevant parts of Australian Standard/New Zealand 4755 as in force from time to time.

AS/NZS 5102 means the relevant parts of Australian/New Zealand Standard 5102 as in force from time to time.

AS/NZS 2442 means the relevant parts of Australian/New Zealand Standard 2442 as in force from time to time.

AS/NZS 2712 means the relevant parts of Australian/New Zealand Standard 2712 as in force from time to time.

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AS/NZS 4474 means the relevant parts of Australian/New Zealand Standard 4474 as in force from time to time.

AS/NZS 4783 means the relevant parts of Australian/New Zealand Standard 4783 as in force from time to time.

AS/NZS 4847 means the relevant parts of Australian/New Zealand Standard 4847 as in force from time to time.

AS/NZS 4859 means the relevant parts of Australian/New Zealand Standard 4859 as in force from time to time.

AS/NZS 5125 means the relevant parts of Australian/New Zealand Standard 5125 as in force from time to time.

AS/NZS 6400 means the relevant parts of Australian/New Zealand Standard 6400 as in force from time to time.

AS/NZS 60598 means the relevant parts of Australian/New Zealand Standard 60598 as in force from time to time.

AS/NZS 62087 means the relevant parts of Australian/New Zealand Standard 62087 as in force from time to time.

building code means the ACT building code, which is comprised of Volumes 1 and 2 of the National Construction Code published by the Australian Building Codes Board and the ACT Appendix to the building code as determined by the responsible Minister.

building lighting has the same meaning as in the ESS Rule Section 10.

business premises means an existing commercial premises that—

(a) is not a residential premises; and

(b) qualifies as a National Construction Code class 3, 5, 6, 7, 8, 9, 10 or the common areas of class 2.

Note 1 A business premises may be occupied by a business, not-for-profit organisation or other enterprise.

Note 2 A business premises may represent part of a larger building.

code of practice means a code of practice made by the administrator under section 25 (Codes of practice) of the *Energy Efficiency (Cost of Living) Improvement Act 2012* that may address consumer protection obligations, quality, health, safety and environmental requirements, record keeping requirements and reporting requirements for eligible activities.

combustible – applied to a material – means combustible under AS 1530 *Methods for fire tests on building materials, components and structures*, as per the definition in the NCC Building Code of Australia – Volume 2 Part 1.1.

commercial lighting energy savings formula method means the use of clause 9.4 of the Energy Savings Scheme Rule to calculate the number of Energy Savings Certificates arising from the activity.

conditioned space means a space within a building where the environment is likely, by the intended use of the space, to have its temperature controlled.

conditioned zone means a room or rooms in a residential premises that due to their use is capable of being fully enclosed and is likely to be artificially heated and/or cooled. Conditioned zones include, but are not limited to, habitable rooms, internal corridors and utility rooms without direct natural ventilation to the room such as an ensuite bathroom.

control gear means lighting ballasts, transformers or drivers.

decommission means disable and render permanently unusable.

draught protection device means a permanently fixed device designed to fit to the bottom of a door to prevent air leakage from or air infiltration from a room or building.

electrical work see *electrical wiring work* as defined in the dictionary of the *Electricity Safety Act 1971.*

eligible business premises means an existing business premises—

(a) for which the energy consumption is not included in a reporting obligation under of any of the following:

i. the *National Greenhouse and Energy Reporting Act 2007* (Commonwealth);

ii. the Australian Government's Energy Efficiency in Government Operations Policy; or

iii. the Zero Emissions Government Framework defined under the ACT Climate Change Strategy (2019-25); and

(b) not undergoing development or refurbishment under an existing development approval under the *Planning Act 2023*. The exception is when a development approval is required for undertaking an eligible activity in an existing building.

eligible residential premises means an existing residential premises—

(a) located in the Territory that meets all criteria for an eligible activity and is not excluded by another law of the Territory, or by the failure to obtain a required approval for any part of the activity, from the activity being undertaken at the premises; and

(b) is not undergoing development or refurbishment under an existing development approval under the *Planning Act 2023*. The exception is when a development approval is required for undertaking an eligible activity in an existing building.

Energy Savings Scheme refers to the NSW Government's energy efficiency obligation scheme. Specifically, it is defined and has the same meaning as written in Part 9 of the *Electricity Supply Act 1995 (NSW)*.

ESS Administrator has the same meaning as Scheme Administrator in Part 9 of the *Electricity Supply Act 1995 (NSW)*.

ESS Rule has the same meaning as Scheme Rule in Part 9 of the *Electricity Supply Act 1995 (NSW)*.

Equipment Energy Efficiency (E3) Committee means the committee responsible for managing the joint Australian, State and Territory Equipment Energy Efficiency Program.

existing lighting equipment means the equipment that provides artificial lighting services that was already installed and in working order at the time of implementation of the activity, including luminaires and/or lamps, control gear, and lighting control systems.

external wall means an outer wall of a building other than a wall separating or common to adjoining buildings.

glazing means a transparent or translucent element and its supporting frame located in an external wall of a building and includes a window other than a roof light.

habitable room see section 1.1.1 Definitions in Volume 2 *National Construction Code Class 1 and Class 10 Buildings* of the National Construction Code Series.

high efficiency refrigerated display cabinet means a Refrigerated Display Cabinet that meets the 'high efficiency' standard prescribed within AS 1731.

IEC TR 61341 means the *Method of measurement of centre beam intensity and beam angle(s) of reflector lamps* published by the International Electrotechnical Commission

in association, in relation to work or other eligible activities undertaken in a premises, includes at the same time as, or subsequent to, alterations and additions to a premises, or part of a premises, or as a result of an eligible activity, or as part of the same contract with a lessee or occupier of a premises.

install includes modify or replace to achieve compliance with eligible activity criteria.

K means Kelvin.

kW means kilowatt.

large electricity customer means a business that consumes electricity at or above the upper consumption threshold for electricity, as defined in the *National Energy Retail Regulations*.

Note *The upper consumption threshold for large electricity customers is more than 160 MWh per annum per National Meter Identifier in the 12 months prior to upgrade.*

lessee see section 256 of the *Planning Act 2023*.

lighting source efficacy means the initial luminous flux of a lamp or the total radiant flux in the visible spectrum weighted by the spectral response of the eye, divided by the electric power that will be consumed by the lamp but excluding ballast and control gear power losses.

lm/W *means lumens per watt.*

mains power switching device means a relay or other device that switches the power to the controlled appliances on or off.

manual dimmer means a product that enables manual control of a light fitting's light output by a dial, slider or other mechanism.

master/slave arrangement, in relation to a standby power controller, means an arrangement where the standby power controller is connected to an uncontrolled master appliance, whose current or power is solely used to control the electrical input to controlled appliances connected to the standby power controller.

MEPS means a minimum energy performance standard.

MJ means megajoules.

modified light emitting diode installation means modification style installations where the existing linear fluorescent lamp is replaced with a linear LED lamp, the original starter is replaced with a fuse as supplied with the LED lamp (in accordance with instructions provided with the LED lamp), and the original fluorescent lamp control gear – including both the ballast and capacitor where fitted – is rendered inoperable by removal and destruction of the whole item.

M-package temperature class means the operational temperature range for the refrigerated display cabinet as defined in AS 1731.

National Construction Code means Volumes 1 and 2 of the National Construction Code published by the Australian Building Codes Board and the ACT Appendix to the building code as determined by the responsible Minister.

occupier of premises, includes—

(a) a person believed, on reasonable grounds, to be an occupier of the premises;

(b) a person apparently in charge of the premises; or

(c) a person authorised to enter into an arrangement for work for the premises.

Off Mode, in relation to a computer, means the lowest power state of the computer when the computer is switched off by the user, but does not include Sleep Mode.

product includes appliance, equipment and material.

purchase does not include by private sale.

record includes report on all or certain criteria of an eligible activity where an obligation to report exists.

register of products, in relation to an eligible activity, means a register of products that meet one or more of the installed product requirements and product testing criteria for the activity that is prescribed by the administrator under a relevant code of practice and provided to NERL retailers with an energy savings obligation under the Act. The register of products includes those available under the Victorian Energy Efficiency Target (VEET), or the NSW Energy Savings Scheme (ESS), or in the *Greenhouse and Energy Minimum Standards Act 2012* (GEMS). If a product is suspended by GEMS, the VEET or ESS scheme then that product is no longer eligible to be used in the Energy Efficiency Improvement Scheme (EEIS).

relevant legislation means of law of the Territory or another jurisdiction that applies to all or part of the activity being undertaken, including but not limited to the—

- *Building Act 2004*
- *Gas Safety Act 2000*
- *Electricity Safety Act 1971*
- *Water and Sewerage Act 2000*
- *Dangerous Substances Act 2004*
- *Work Health and Safety Act 2011*
- *Unit Titles Act 2001*

- *Fair Trading Act (Australia Consumer Law) Act 1992*
- *Environment Protection Act 1997*
- *Construction Occupations (Licensing) Act 2004*
- *Ozone Protection and Synthetic Greenhouse Gas Management Act 1989* (Commonwealth)
- *Trade Practices Act 1974* (Commonwealth).

residential premises means a building or part of building located in the Territory and classified under Part A3 of the *National Construction Code* as a class 1 building, a class 10a building attached to a class 1 building, a sole occupancy unit in a class 2 building, or a class 4 building, or is a transportable home or vehicle designed for habitation that is not used for short-stay or holiday accommodation.

R-value means the thermal resistance in m^2K/W of a component calculated by dividing its thickness by its thermal conductivity.

Sleep Mode, in relation to a computer, means a low power state that the computer is capable of entering automatically after a period of inactivity or by manual selection.

small electricity customer means a business that consumes electricity below the upper consumption threshold for electricity, as defined in the *National Energy Retail Regulations*.

Note *A small electricity customer uses less than 160 MWh per annum per National Meter Identifier in the 12 months prior to upgrade.*

thermal efficiency performance, in relation to a window or glazing, means the capacity of the product to resist undesirable heat transfers across the material, specific to the predominant climatic conditions in the Territory and the location and orientation of the product when installed in a building.

Total Display Area (TDA) is the area as defined in AS 1731.14, Appendix D.

total U-Value means the thermal transmittance in W/m^2K of the composite element allowing for the effect of any airspace and associated surface resistances.

unconditioned zone means a room or rooms in a premises that is not a conditioned zone.

unsealed, in relation to a door, door frame, window, window frame, exhaust fan or chimney or flue to a solid fuel burning appliance, means not sealed in accordance with the relevant building sealing provisions of the building code for the class of building, and may include partially sealed frames and/or sealing that is in a condition that renders the sealing ineffective.

U value means the thermal transmittance in W/m^2K of a material or product.

ventilation opening means an opening in the external wall, floor, or roof of a building designed to allow air movement into or out of a building by natural means including a permanent opening or other device that can be held open but does not include an openable part of a window or a door.

weather sealing means sealing of openings between elements in a building to minimise air leakage from and air infiltration from the outside of a building and the inside of a building and to weatherproof the building to prevent the ingress of precipitation.

WERS means the Window Energy Rating Scheme managed by the Australian Window Association.

window includes a glass panel, glass block, glass brick, glazed sash, or similar glazing product that, when closed, transmits natural light directly from outside a premises to the inside of the premises, but does not include a louvered product, and includes a door in an external wall that has a glazing pane or panes that comprise 60 per cent or more of the door.