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| Install an Efficient New Reverse Cycle Air Conditioner (Non-Ducted); Residential Only | Activity No. |
| | HC2A |

1. ACTIVITY SPECIFIC DEFINITIONS

Reverse cycle air conditioner (non-ducted) means a single phase non-ducted air conditioner with both heating and cooling functions that is registered for energy labelling and MEPS under standard AS/NZS 3823.2.

ACOP means the annual coefficient of performance as defined in AS/NZS 3823.2

AEER means the annual energy efficiency ratio as defined in AS/NZS 3823.2

Fixed Resistance Electric Heater means an electric heater that utilizes a resistance electric heating element (ACOP = 1) that is permanently fixed within the building. Portable electric heaters such as fan convectors radiant or oil column heaters that are not permanently fixed do not qualify as a “fixed resistance electric heater”.

SRI means Star Rating Index

Priority Group Household means households as defined in sub regulation 23(1) of Part 4 Electricity (General) Regulations 2012 under the *Electricity Act 1996*, and 17(1) of Part 4 Gas Regulations 2012 under the *Gas Act 1997*

2. ACTIVITY DESCRIPTION (SUMMARY)

Install an efficient new reverse cycle air conditioner (non-ducted). This can take one of three forms:

HC2A(i) - Replacement (early retirement) of a pre-existing room air-conditioner in working order (Priority group households only)

HC2A(ii) - Replacement of a pre-existing fixed resistance electric heater in working order

HC2A(iii) - Installation of a new reverse cycle air-conditioner (non-ducted) without any pre-condition in relation to type of existing heating equipment (if any). Includes installation of a new air conditioner in a new dwelling.

3. ACTIVITY ELIGIBILITY REQUIREMENTS

Any residential household in South Australia where the installed product requirements and minimum installation requirements can be met, notwithstanding that:

Activity HC2A(i) - Replacement (early retirement) of a pre-existing air-conditioner is limited in application to priority group households only.

In relation to activities HC2A(i) and HC2A(ii), all the pre-existing heater/s within the conditioned spaces of the dwelling must be fully decommissioned, removed from the property and disposed of.

4. INSTALLED PRODUCT REQUIREMENTS

(1) The reverse cycle air conditioner (non-ducted) must achieve the following minimum performance standards under AS/NZS 3823.2 (2013):

- Heating Performance, minimum 3.5 stars or minimum ACOP of 4.0

- Cooling Performance, minimum 3.0 stars or minimum AEER of 3.75
- (2) The reverse cycle air conditioner (non-ducted) shall be single phase and have a rated cooling output not exceeding 15kW.
 - (3) Multi-split systems are not eligible.
 - (4) The installed product must have a warranty of at least 2 years.
 - (5) Water loop heat pump products must be registered for sale under the *Greenhouse and Energy Minimum Standards (GEMS) Act 2012* and comply with MEPS levels specified in AS/NZS3823.2.

5. MINIMUM INSTALLATION REQUIREMENTS

- (1) Any reverse cycle air conditioner (non-ducted) installed must comply with AS/NZS 60335.2.40.
- (2) Removed pre-existing heaters shall have refrigerants and any other scheduled substances disposed of in accordance with the Australian and New Zealand refrigerant handling code of practice as established under the Ozone Protection and Synthetic Greenhouse Gas Management Act 1989 (Cth).

6. ACTIVITY ENERGY SAVINGS

The normalised energy saved per appliance (GJ) from undertaking this activity is as per the following six tables.

Separate tables are provided for “NCC climate zone 6” and “other places in SA” and;

Separate tables are provided for each of the 3 possible sub-activities available under this activity.

Normalised energy savings are based on the installed products heating star rating or ACOP (refer to the options in the red coloured fields down the left hand side of each table) and its cooling star rating or AEER (refer to the options in the blue coloured fields across the top of each table)

Normalised Energy Savings (GJ) per activity

(NCC climate 6) – HC2A (i) - Replacement (early retirement) of a pre-existing air-conditioner

| HC2A(i) | Cooling Stars > | 3 to < 3.5 | 3.5 to < 4 | 4 to < 4.5 | 4.5 to < 5 | 5 to < 5.5 | 5.5 to < 6 | 6 to < 7 | 7 to < 7.5 | 7.5 to < 8 | 8 or more |
|----------------------|-----------------|---------------------------------------|-------------|---------------|---------------|-------------|-------------|----------------|-------------|-------------|--------------|
| BCA 6 | AEER > | 3.75 to < 4 | 4 to < 4.25 | 4.25 to < 4.5 | 4.5 to < 4.75 | 4.75 to < 5 | 5 to < 5.25 | 5.25 to < 5.75 | 5.75 to < 6 | 6 to < 6.25 | 6.25 or more |
| Heating Stars | ACOP | Normalised Energy Savings (GJ) | | | | | | | | | |
| 3.5 to < 4 | 4 to < 4.25 | 8.6 | 8.7 | 8.9 | 9.0 | 9.1 | 9.2 | 9.3 | 9.4 | 9.5 | 9.6 |
| 4 to < 4.5 | 4.25 to < 4.5 | 11.8 | 11.9 | 12.1 | 12.2 | 12.3 | 12.4 | 12.5 | 12.7 | 12.7 | 12.8 |
| 4.5 to < 5 | 4.5 to < 4.75 | 14.6 | 14.8 | 14.9 | 15.0 | 15.2 | 15.3 | 15.4 | 15.5 | 15.6 | 15.6 |
| 5 to < 5.5 | 4.75 to < 5 | 17.2 | 17.4 | 17.5 | 17.6 | 17.7 | 17.8 | 17.9 | 18.1 | 18.2 | 18.2 |
| 5.5 to < 6 | 5 to < 5.25 | 19.5 | 19.7 | 19.8 | 19.9 | 20.0 | 20.2 | 20.2 | 20.4 | 20.5 | 20.5 |
| 6 to < 7 | 5.25 to < 5.75 | 21.6 | 21.8 | 21.9 | 22.0 | 22.2 | 22.3 | 22.3 | 22.5 | 22.6 | 22.6 |
| 7 to < 7.5 | 5.75 to < 6 | 25.3 | 25.4 | 25.6 | 25.7 | 25.8 | 25.9 | 26.0 | 26.2 | 26.2 | 26.3 |
| 7.5 to < 8 | 6 to < 6.25 | 26.9 | 27.1 | 27.2 | 27.3 | 27.4 | 27.5 | 27.6 | 27.8 | 27.9 | 27.9 |
| 8 or more | 6.25 or more | 28.4 | 28.5 | 28.7 | 28.8 | 28.9 | 29.0 | 29.1 | 29.3 | 29.3 | 29.4 |

(NCC climate 6) – HC2A (ii) - Replacement of a pre-existing fixed resistance electric heater

| HC2A(ii) | Cooling Stars > | 3 to < 3.5 | 3.5 to < 4 | 4 to < 4.5 | 4.5 to < 5 | 5 to < 5.5 | 5.5 to < 6 | 6 to < 7 | 7 to < 7.5 | 7.5 to < 8 | 8 or more |
|---------------|-----------------|--------------------------------|-------------|---------------|---------------|-------------|-------------|----------------|-------------|-------------|--------------|
| BCA 6 | AEER > | 3.75 to < 4 | 4 to < 4.25 | 4.25 to < 4.5 | 4.5 to < 4.75 | 4.75 to < 5 | 5 to < 5.25 | 5.25 to < 5.75 | 5.75 to < 6 | 6 to < 6.25 | 6.25 or more |
| Heating Stars | ACOP | Normalised Energy Savings (GJ) | | | | | | | | | |
| 3.5 to < 4 | 4 to < 4.25 | 172.9 | 173.1 | 173.2 | 173.4 | 173.5 | 173.6 | 173.7 | 173.8 | 173.9 | 174.0 |
| 4 to < 4.5 | 4.25 to < 4.5 | 176.2 | 176.3 | 176.5 | 176.6 | 176.7 | 176.8 | 176.9 | 177.0 | 177.1 | 177.2 |
| 4.5 to < 5 | 4.5 to < 4.75 | 179.0 | 179.2 | 179.3 | 179.4 | 179.6 | 179.7 | 179.9 | 179.9 | 180.0 | 180.0 |
| 5 to < 5.5 | 4.75 to < 5 | 181.6 | 181.7 | 181.9 | 182.0 | 182.1 | 182.2 | 182.3 | 182.5 | 182.5 | 182.6 |
| 5.5 to < 6 | 5 to < 5.25 | 183.9 | 184.1 | 184.2 | 184.3 | 184.4 | 184.5 | 184.6 | 184.8 | 184.9 | 184.9 |
| 6 to < 7 | 5.25 to < 5.75 | 186.0 | 186.2 | 186.3 | 186.4 | 186.5 | 186.6 | 186.7 | 186.9 | 187.0 | 187.0 |
| 7 to < 7.5 | 5.75 to < 6 | 189.7 | 189.8 | 190.0 | 190.1 | 190.2 | 190.3 | 190.4 | 190.6 | 190.6 | 190.7 |
| 7.5 to < 8 | 6 to < 6.25 | 191.3 | 191.4 | 191.6 | 191.7 | 191.8 | 191.9 | 192.0 | 192.2 | 192.2 | 192.3 |
| 8 or more | 6.25 or more | 192.8 | 192.9 | 193.1 | 193.2 | 193.3 | 193.4 | 193.5 | 193.7 | 193.7 | 193.8 |

(NCC climate 6) – HC2A (iii) - Installation of a new reverse cycle air-conditioner (non-ducted) without pre-condition

| HC2A(iii) | Cooling Stars > | 3 to < 3.5 | 3.5 to < 4 | 4 to < 4.5 | 4.5 to < 5 | 5 to < 5.5 | 5.5 to < 6 | 6 to < 7 | 7 to < 7.5 | 7.5 to < 8 | 8 or more |
|---------------|-----------------|--------------------------------|-------------|---------------|---------------|-------------|-------------|----------------|-------------|-------------|--------------|
| BCA 6 | AEER > | 3.75 to < 4 | 4 to < 4.25 | 4.25 to < 4.5 | 4.5 to < 4.75 | 4.75 to < 5 | 5 to < 5.25 | 5.25 to < 5.75 | 5.75 to < 6 | 6 to < 6.25 | 6.25 or more |
| Heating Stars | ACOP | Normalised Energy Savings (GJ) | | | | | | | | | |
| 3.5 to < 4 | 4 to < 4.25 | 6.7 | 6.9 | 7.0 | 7.2 | 7.3 | 7.4 | 7.5 | 7.6 | 7.7 | 7.8 |
| 4 to < 4.5 | 4.25 to < 4.5 | 9.9 | 10.1 | 10.2 | 10.4 | 10.5 | 10.6 | 10.7 | 10.8 | 10.9 | 11.0 |
| 4.5 to < 5 | 4.5 to < 4.75 | 12.8 | 13.0 | 13.1 | 13.2 | 13.3 | 13.4 | 13.5 | 13.7 | 13.8 | 13.8 |
| 5 to < 5.5 | 4.75 to < 5 | 15.4 | 15.5 | 15.7 | 15.8 | 15.9 | 16.0 | 16.1 | 16.3 | 16.3 | 16.4 |
| 5.5 to < 6 | 5 to < 5.25 | 17.7 | 17.8 | 18.0 | 18.1 | 18.2 | 18.3 | 18.4 | 18.6 | 18.6 | 18.7 |
| 6 to < 7 | 5.25 to < 5.75 | 19.8 | 20.0 | 20.1 | 20.2 | 20.3 | 20.4 | 20.5 | 20.7 | 20.8 | 20.8 |
| 7 to < 7.5 | 5.75 to < 6 | 23.5 | 23.6 | 23.8 | 23.9 | 24.0 | 24.1 | 24.2 | 24.3 | 24.4 | 24.5 |
| 7.5 to < 8 | 6 to < 6.25 | 25.1 | 25.2 | 25.4 | 25.5 | 25.6 | 25.7 | 25.8 | 26.0 | 26.0 | 26.1 |
| 8 or more | 6.25 or more | 26.6 | 26.7 | 26.9 | 27.0 | 27.1 | 27.2 | 27.3 | 27.4 | 27.5 | 27.6 |

(Other Places in SA) – HC2A (i) - Replacement (early retirement) of a pre-existing air-conditioner

| HC2A(i) | Cooling Stars > | 3 to < 3.5 | 3.5 to < 4 | 4 to < 4.5 | 4.5 to < 5 | 5 to < 5.5 | 5.5 to < 6 | 6 to < 7 | 7 to < 7.5 | 7.5 to < 8 | 8 or more |
|---------------|-----------------|--------------------------------|-------------|---------------|---------------|-------------|-------------|----------------|-------------|-------------|--------------|
| BCA 5 | AEER > | 3.75 to < 4 | 4 to < 4.25 | 4.25 to < 4.5 | 4.5 to < 4.75 | 4.75 to < 5 | 5 to < 5.25 | 5.25 to < 5.75 | 5.75 to < 6 | 6 to < 6.25 | 6.25 or more |
| Heating Stars | ACOP | Normalised Energy Savings (GJ) | | | | | | | | | |
| 3.5 to < 4 | 4 to < 4.25 | 5.5 | 6.4 | 7.1 | 7.8 | 8.4 | 8.9 | 9.4 | 10.2 | 10.6 | 10.9 |
| 4 to < 4.5 | 4.25 to < 4.5 | 6.9 | 7.8 | 8.5 | 9.2 | 9.8 | 10.3 | 10.8 | 11.6 | 12.0 | 12.3 |
| 4.5 to < 5 | 4.5 to < 4.75 | 8.2 | 9.0 | 9.8 | 10.4 | 11.0 | 11.6 | 12.0 | 12.9 | 13.3 | 13.6 |
| 5 to < 5.5 | 4.75 to < 5 | 9.3 | 10.2 | 10.9 | 11.6 | 12.2 | 12.7 | 13.2 | 14.0 | 14.4 | 14.7 |
| 5.5 to < 6 | 5 to < 5.25 | 10.3 | 11.2 | 11.9 | 12.6 | 13.2 | 13.7 | 14.2 | 15.0 | 15.4 | 15.8 |
| 6 to < 7 | 5.25 to < 5.75 | 11.3 | 12.1 | 12.8 | 13.5 | 14.1 | 14.6 | 15.1 | 16.0 | 16.3 | 16.7 |
| 7 to < 7.5 | 5.75 to < 6 | 12.9 | 13.7 | 14.4 | 15.1 | 15.7 | 16.2 | 16.7 | 17.6 | 17.9 | 18.3 |
| 7.5 to < 8 | 6 to < 6.25 | 13.6 | 14.4 | 15.2 | 15.8 | 16.4 | 16.9 | 17.4 | 18.3 | 18.6 | 19.0 |
| 8 or more | 6.25 or more | 14.2 | 15.1 | 15.8 | 16.5 | 17.1 | 17.6 | 18.1 | 18.9 | 19.3 | 19.6 |

(Other Places in SA) – HC2A (ii) - Replacement of a pre-existing fixed resistance electric heater

| HC2A(ii) | Cooling Stars > | 3 to < 3.5 | 3.5 to < 4 | 4 to < 4.5 | 4.5 to < 5 | 5 to < 5.5 | 5.5 to < 6 | 6 to < 7 | 7 to < 7.5 | 7.5 to < 8 | 8 or more |
|---------------|-----------------|--------------------------------|-------------|---------------|---------------|-------------|-------------|----------------|-------------|-------------|--------------|
| BCA 5 | AEER > | 3.75 to < 4 | 4 to < 4.25 | 4.25 to < 4.5 | 4.5 to < 4.75 | 4.75 to < 5 | 5 to < 5.25 | 5.25 to < 5.75 | 5.75 to < 6 | 6 to < 6.25 | 6.25 or more |
| Heating Stars | ACOP | Normalised Energy Savings (GJ) | | | | | | | | | |
| 3.5 to < 4 | 4 to < 4.25 | 63.3 | 64.1 | 64.8 | 65.5 | 66.1 | 66.6 | 67.1 | 68.0 | 68.3 | 68.7 |
| 4 to < 4.5 | 4.25 to < 4.5 | 64.7 | 65.5 | 66.3 | 66.9 | 67.5 | 68.0 | 68.5 | 69.4 | 69.7 | 70.1 |
| 4.5 to < 5 | 4.5 to < 4.75 | 65.9 | 66.8 | 67.5 | 68.2 | 68.8 | 69.3 | 69.8 | 70.6 | 71.0 | 71.3 |
| 5 to < 5.5 | 4.75 to < 5 | 67.1 | 67.9 | 68.6 | 69.3 | 69.9 | 70.4 | 70.9 | 71.8 | 72.1 | 72.5 |
| 5.5 to < 6 | 5 to < 5.25 | 68.1 | 68.9 | 69.7 | 70.3 | 70.9 | 71.4 | 71.9 | 72.8 | 73.2 | 73.5 |
| 6 to < 7 | 5.25 to < 5.75 | 69.0 | 69.8 | 70.6 | 71.2 | 71.8 | 72.4 | 72.9 | 73.7 | 74.1 | 74.4 |
| 7 to < 7.5 | 5.75 to < 6 | 70.6 | 71.5 | 72.2 | 72.9 | 73.4 | 74.0 | 74.5 | 75.3 | 75.7 | 76.0 |
| 7.5 to < 8 | 6 to < 6.25 | 71.3 | 72.2 | 72.9 | 73.6 | 74.2 | 74.7 | 75.2 | 76.0 | 76.4 | 76.7 |
| 8 or more | 6.25 or more | 72.0 | 72.8 | 73.5 | 74.2 | 74.8 | 75.3 | 75.8 | 76.7 | 77.0 | 77.4 |

(Other Places in SA) – HC2A (iii) - Installation of a new reverse cycle air-conditioner (non-ducted) without pre-condition

| HC2A(iii) | Cooling Stars > | 3 to < 3.5 | 3.5 to < 4 | 4 to < 4.5 | 4.5 to < 5 | 5 to < 5.5 | 5.5 to < 6 | 6 to < 7 | 7 to < 7.5 | 7.5 to < 8 | 8 or more |
|---------------|-----------------|--------------------------------|-------------|---------------|---------------|-------------|-------------|----------------|-------------|-------------|--------------|
| BCA 5 | AEER > | 3.75 to < 4 | 4 to < 4.25 | 4.25 to < 4.5 | 4.5 to < 4.75 | 4.75 to < 5 | 5 to < 5.25 | 5.25 to < 5.75 | 5.75 to < 6 | 6 to < 6.25 | 6.25 or more |
| Heating Stars | ACOP | Normalised Energy Savings (Gj) | | | | | | | | | |
| 3.5 to < 4 | 4 to < 4.25 | 4.3 | 5.1 | 5.9 | 6.6 | 7.1 | 7.7 | 8.2 | 9.0 | 9.4 | 9.7 |
| 4 to < 4.5 | 4.25 to < 4.5 | 5.7 | 6.6 | 7.3 | 8.0 | 8.6 | 9.1 | 9.6 | 10.4 | 10.8 | 11.1 |
| 4.5 to < 5 | 4.5 to < 4.75 | 7.0 | 7.8 | 8.6 | 9.2 | 9.8 | 10.3 | 10.8 | 11.7 | 12.0 | 12.4 |
| 5 to < 5.5 | 4.75 to < 5 | 8.1 | 8.9 | 9.7 | 10.3 | 10.9 | 11.5 | 12.0 | 12.8 | 13.2 | 13.5 |
| 5.5 to < 6 | 5 to < 5.25 | 9.1 | 10.0 | 10.7 | 11.4 | 12.0 | 12.5 | 13.0 | 13.8 | 14.2 | 14.5 |
| 6 to < 7 | 5.25 to < 5.75 | 10.0 | 10.9 | 11.6 | 12.3 | 12.9 | 13.4 | 13.9 | 14.7 | 15.1 | 15.5 |
| 7 to < 7.5 | 5.75 to < 6 | 11.7 | 12.5 | 13.2 | 13.9 | 14.5 | 15.0 | 15.5 | 16.4 | 16.7 | 17.1 |
| 7.5 to < 8 | 6 to < 6.25 | 12.4 | 13.2 | 13.9 | 14.6 | 15.2 | 15.7 | 16.2 | 17.1 | 17.4 | 17.8 |
| 8 or more | 6.25 or more | 13.0 | 13.9 | 14.6 | 15.3 | 15.8 | 16.4 | 16.9 | 17.7 | 18.1 | 18.4 |

7. GUIDANCE NOTES (INFORMATIVE ONLY – NOT MANDATORY)

Persons installing heating/cooling systems should have regard to the “Air Conditioning Residential Best Practice Guideline” (2003) published by the Australian Institute of Refrigeration, Air Conditioning and Heating (AIRAH). All reasonable endeavours should be used to recycle removed systems.

Refrigerants and any other scheduled substances must be disposed of in accordance with the Australian and New Zealand refrigerant handling code of practice as established under the *Ozone Protection and Synthetic Greenhouse Gas Management Act 1989* (Cth).