

# Updated air conditioner and refrigerated cabinet activities

28 February 2022

The NSW Government has updated and amended the *Energy Savings Scheme Rule of 2009 (ESS Rule)*. The *Energy Savings Scheme (Amendment No.1) Rule 2021 (new ESS Rule)*<sup>a</sup> commences on 28 February 2022. The ESS Rule has been updated to align air-conditioning and refrigeration activities with the new *Greenhouse and Energy Minimum Standards (Air Conditioners up to 65kW) Determination 2019* and *Greenhouse and Minimum Energy Performance Standards (Refrigerated Cabinets) Determination 2020*.

This fact sheet outlines the commencement arrangements, summarises the key updates to activity definitions and the minimum required records. Additional guidance about the new equipment requirements and calculation methodology for air-conditioning activities is also provided.

You should familiarise yourself with the new ESS Rule to ensure you meet the requirements set out in the activity definitions and understand the transitional arrangements. We have updated our guidance material, tools and templates to reflect the ESS Rule changes and assist affected stakeholders, including Accredited Certificate Providers (**ACPs**), auditors, and installers. You can access this documentation now and prepare your business, by updating your processes, documentation and systems.

Table 1 below summarises the updated air conditioner and refrigerated cabinet activities and documentation.

Table 1 Updated air conditioner and refrigerated cabinet activities

Method	Updated activity definitions	Updated documentation
Home Energy Efficiency Retrofits ( <b>HEER</b> )	<ul style="list-style-type: none"> <li><b>D3</b> – Replace an existing air conditioner with a high efficiency air conditioner (<b>deleted and replaced with D16</b>)</li> <li><b>D4</b> – Install a high efficiency air conditioner (<b>deleted and replaced with D16</b>)</li> <li><b>D16</b> – Install a high efficiency air conditioner or replace an existing air conditioner with a high efficiency air conditioner (<b>added – replaces D3 and D4</b>)</li> </ul>	<ul style="list-style-type: none"> <li>Method Guide</li> <li>Application Form Part B</li> <li>Site Assessor Declaration</li> <li>Post Implementation Declaration</li> <li>Implementation Data Sheet</li> </ul>
Installation of High Efficiency Appliances for Businesses ( <b>IHEAB</b> )	<ul style="list-style-type: none"> <li><b>F1</b> – Install a high efficiency refrigerated cabinet or replace an existing refrigerated display cabinet</li> <li><b>F4</b> – Install a high efficiency air conditioner or replace an existing air conditioner with a high efficiency air conditioner</li> </ul>	<ul style="list-style-type: none"> <li>Method Guide</li> <li>Application Form Part B</li> <li>Site Assessment Report</li> <li>Installer Declaration</li> <li>Implementation Data Sheet</li> </ul>

<sup>a</sup> The *Energy Savings Scheme (Amendment No.1) Rule 2021* was gazetted on 28 January 2022.

# 1 Commencement arrangements

The amended activity definitions D16, F1 and F4 will be in force immediately at the commencement date of the new ESS Rule, which is 28 February 2022.

ACPs accredited for activity definitions D3 and/or D4 automatically transition to activity definition D16 on the commencement date of the new ESS Rule.<sup>b</sup> This means that if you are accredited for D3 or D4, your accreditation will be for D16 on and from 28 February 2022. Figure 1 provides an illustrative example.

Figure 1 Transitional arrangements for activity definitions D3, D4 and D16



The calculation of energy savings for air conditioner and refrigerated cabinet implementations under both the HEER and IHEAB methods are subject to the general transitional arrangements. If an application to register energy savings certificates (**ESCs**) is made on or after the commencement date of the new ESS Rule, but the implementation date is before the commencement date (i.e. on or before 27 February 2022), the old ESS Rule will continue to apply.<sup>c</sup> However, if the implementation date is on or after 28 February 2022, the new ESS Rule applies. Box 1 provides an illustrative example.

ESCs calculated using either the old ESS Rule or new ESS Rule must be created no later than 6 months after the end of the year in which energy savings occur.<sup>d</sup> This deadline has not changed.

<sup>b</sup> Clause 11.19 of the new ESS Rule.

<sup>c</sup> Clause 11.16 of the new ESS Rule.

<sup>d</sup> Section 34(3) of Schedule 4A to the ES Act.

### Box 1 Examples of how the transitional arrangement is applied

The implementation date of a project is 30 December 2021. You apply to register the ESCs created for the implementation on 1 March 2022. Although the application to register ESCs is made after the commencement date of the new ESS Rule (28 February 2022), you must calculate the energy savings for the project using the old ESS Rule, as the implementation date of the project is before the commencement date of the new Rule (as per clause 11.16).

The implementation date of a project is 1 March 2022. You apply to register the ESCs created for the implementation on 1 April 2022. You must calculate the energy savings for the project using the new ESS Rule.

## 2 Air-conditioning activities

Air-conditioning activities under activity definitions D16<sup>e</sup> and F4 now align with the *Greenhouse and Energy Minimum Standards (Air Conditioners up to 65kW) Determination 2019 (Air Conditioner Determination)*, which commenced on 1 April 2020.

Under the Air Conditioner Determination, a new Zoned Energy Rating Label (**ZERL**) has been introduced to replace the existing Energy Rating Label (**ERL**). Under the new ESS Rule, the calculation of energy savings in the first instance takes into consideration the impact that different climate zones have on an air conditioner's performance. That is, energy savings are calculated to compare the annual energy use from the ZERL (in each climate zone) with the annual energy use of a baseline system, as defined in the Minimum Energy Performance Standards (**MEPS**). The ZERL includes information on the energy efficiency and annual electricity use of an air conditioner for three newly defined climate zones (hot, average and cold).

### 2.1 Minimum required records

The Scheme Administrator has changed the minimum required records for D16 and F4 to reflect the new ESS Rule. We have been conservative with evidence requirements to avoid imposing a significant burden on ACPs' record keeping obligations. Our reasons for the new or updated evidence requirements is provided in Table 2.

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<sup>e</sup> Activity definitions D3 and D4 are replaced with and consolidated into a single activity definition D16.

Table 2 Changed evidence requirements for air conditioners

ESS Rule change	Change to evidence requirement	Reason
<b>Activity definition D16 (HEER)</b>		
<ul style="list-style-type: none"> <li>Add a requirement that the activity be a replacement or new installation.</li> <li>Remove the requirement for the existing air conditioner to be in working order.</li> </ul>	<ul style="list-style-type: none"> <li><b>No change</b> to existing requirements</li> </ul>	<ul style="list-style-type: none"> <li>The existing evidence requirements already require the ACP to demonstrate the eligibility requirements have been met.</li> </ul>
<ul style="list-style-type: none"> <li>The air conditioner must be registered in the GEMS Registry and must have a cooling/heating capacity that is equal to or greater than minimum baseline threshold values.</li> </ul>	<ul style="list-style-type: none"> <li><b>Replace</b> manufacturer specifications with a choice of geo-tagged photos or tax invoice which shows the make and model of the equipment installed.</li> <li><b>Add</b> evidence of GEMS Registration which shows the GEMS Registry values.</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrate the equipment requirements are met for the installed products.</li> </ul>
<b>Activity definition F4 (IHEAB)</b>		
<ul style="list-style-type: none"> <li>Allow for both replacement and new installation activities (previously just new installations).</li> </ul>	<ul style="list-style-type: none"> <li><b>Amend</b> geo-tagged photos to show either the existing equipment or that there is no equipment in place.</li> </ul>	<ul style="list-style-type: none"> <li>The geo-tagged photos will support both eligibility and installation requirements.</li> </ul>
<p>Add eligibility requirements:</p> <ul style="list-style-type: none"> <li>The equipment installed is a high efficiency air conditioner.</li> <li>The equipment must not be installed in a residential building unless it is replacing an existing air conditioner in a centralised system or in the common areas of a Class 2 building.</li> </ul>	<ul style="list-style-type: none"> <li><b>Add</b> site assessment report to declare the eligibility requirements have been met.</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrate that the eligibility requirements are met.</li> </ul>
<ul style="list-style-type: none"> <li>The air conditioner must have a cooling/heating capacity that is equal to or greater than different minimum baseline threshold values (as registered on the GEMS Registry).</li> </ul>	<ul style="list-style-type: none"> <li><b>Update</b> existing evidence requirement to reflect the new GEMS Registry values.</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrate that the equipment requirements are met for the installed products.</li> </ul>
<p>Add installation requirements:</p> <ul style="list-style-type: none"> <li>Existing equipment must be removed.</li> <li>The new equipment must be installed.</li> <li>Activities must be performed or supervised by a qualified licence holder in compliance with relevant standards and legislation.</li> </ul>	<ul style="list-style-type: none"> <li><b>Amend</b> existing requirement (for either a tax invoice, CCEW or Commissioning Report) with either an Installer Declaration, CCEW or Commissioning Report.</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrate that additional installation requirements are met.</li> <li>A tax invoice would not support the new installation requirements.</li> </ul>
Other	<ul style="list-style-type: none"> <li><b>Replace</b> existing requirement for "Appliance make and model" (geo-tagged photos <i>and</i> tax invoice) with either manufacturers' specification, geo-tagged photos or tax invoice.</li> </ul>	<ul style="list-style-type: none"> <li>For consistency with D16 and provide flexibility for ACPs.</li> <li>This has also been updated for activity definitions F1 to F3.</li> </ul>

## 2.2 New equipment requirements

Equipment requirements under Activity Definitions D16 and F4 require the end user equipment (**EUE**) to be registered in the GEMS Registry and achieve a minimum level of energy efficiency performance. However, different equipment requirements apply depending on whether:

- The EUE has cooling and/or heating capacity
- The total cooling season performance factor (**TCSPF**) and the heating season performance factor (**HSPF**) values are recorded in the GEMS Registry, and
- The EUE is installed in a hot, average or cold zone.

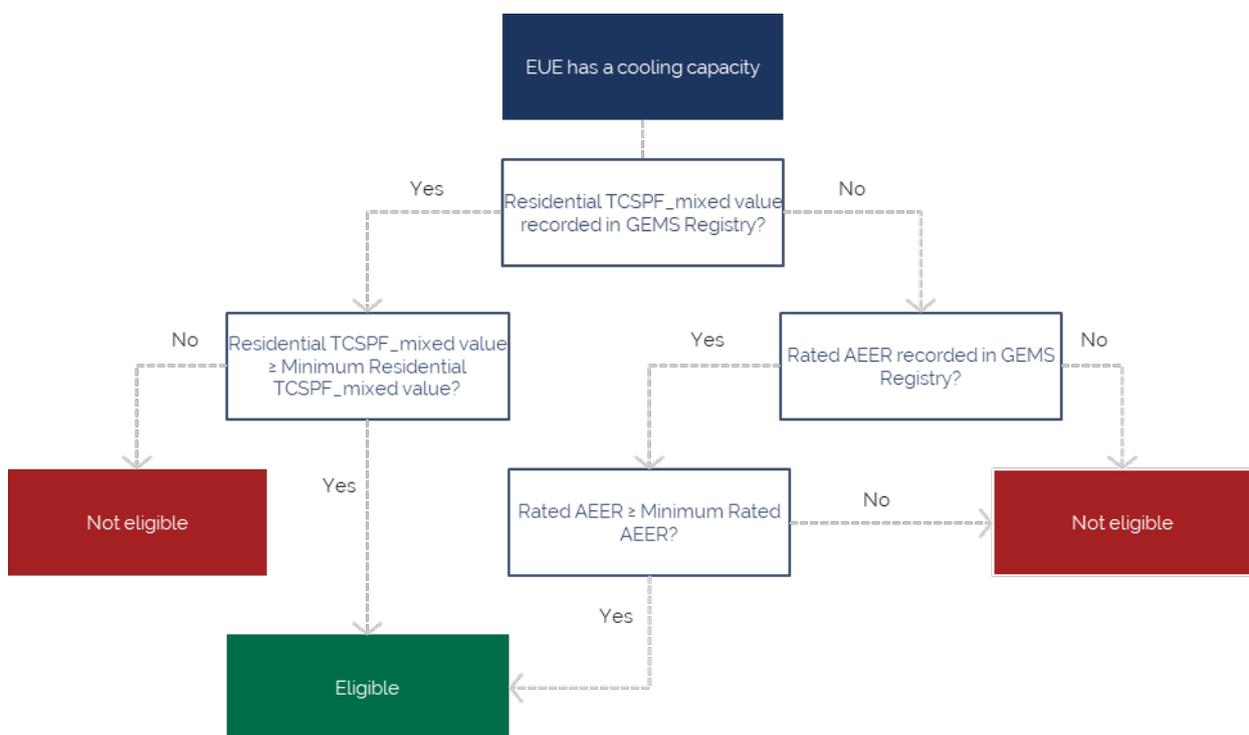
Figure 2 and Figure 3 below explain how to determine whether an EUE meets the equipment requirements under activity definition D16 in each case. The process for determining the requirements under Activity Definition F4 is identical, except "Residential TCSPF" and "Residential HSPF" is replaced by "Commercial TCSPF" and "Commercial HSPF" respectively for Activity Definition F4.

### 2.2.1 EUE with cooling capacity

For EUE that has a cooling capacity recorded in the GEMS Registry, the key step is to determine whether the EUE has a *Residential TCSPF\_mixed* value recorded in the GEMS Registry:

- TCSPF recorded in GEMS Registry: Equipment Requirement 2a applies
- TCSPF not recorded in GEMS Registry: Equipment Requirement 2b applies

Figure 2 Does EUE meet equipment requirements under D16 when it has cooling capacity?



### 2.2.2 EUE with heating capacity

For EUE that has a heating capacity recorded in the GEMS Registry, the first step is to determine the climate zone in which the EUE is installed:

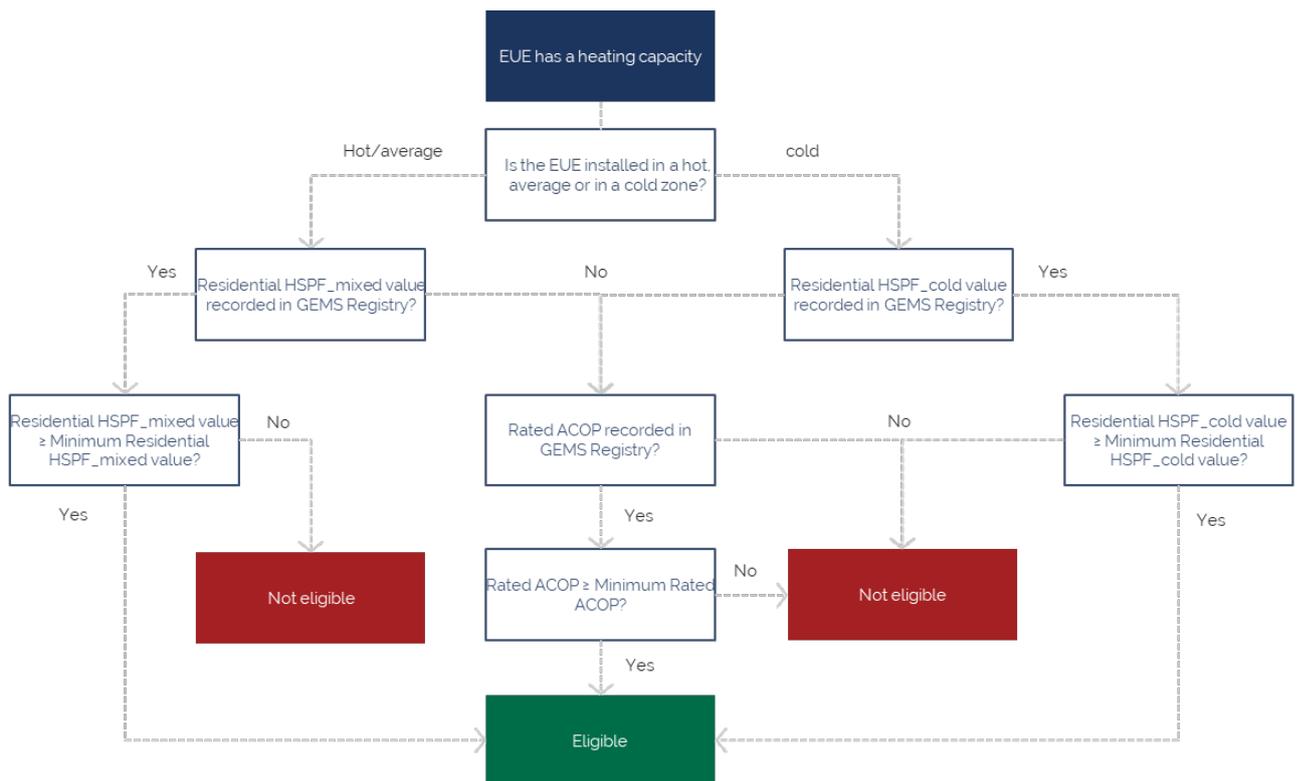
- Hot or average zone: Equipment Requirement 3 applies
- Cold zone: Equipment Requirement 4 applies

The climate zone can be obtained from Table A27 of the ESS Rule using the postcode of the location where the activity is implemented.

The second step is to determine whether the EUE has a *Residential HSPF* value recorded in the GEMS Registry:

- HSPF recorded in GEMS Registry: Equipment Requirements 3a or 4a apply (hot or average zone)
- HSPF not recorded in GEMS Registry: Equipment Requirements 3b or 4b apply (cold zone)

Figure 3 Does EUE meet equipment requirements under D16 when it has heating capacity?



### 2.3 New calculation methodology

Deemed energy savings from air-conditioning activities are calculated by subtracting annual cooling and heating energy use from reference cooling and heating energy use multiplied by a lifetime of 10 years. This is represented in equations D16.1 and F4.1:

$$\text{Deemed Activity Electricity Savings} = [(\text{Reference Cooling Annual Energy Use} - \text{Cooling Annual Energy Use}) + (\text{Reference Heating Annual Energy Use} - \text{Heating Annual Energy Use})] \times \text{Lifetime} / 1000$$

Activity Definitions D16 and F4 also provide equations for how the reference or “baseline” energy use and the annual energy use of the applicable air-conditioning product are calculated.

All air conditioners have a cooling capacity but not all have a heating capacity. Where there is no heating capacity the values of the *Reference Heating Annual Energy Use* and the *Heating Annual Energy Use* are zero.

### 2.3.3 Reference Energy Use

When calculating the reference energy use with equations D16.2/D16.3 or F4.2/F4.3, *Cooling Capacity* and *Heating Capacity* can be obtained from either the old ERL or new ZERL displayed on the air conditioner. These values are also contained in the GEMS Registry database. The GEMS Registry uses the terms “C-Total Cool Rated” for the cooling capacity and “H-Total Heat Rated” for the heating capacity.

### 2.3.4 Annual Energy Use

When calculating the annual energy use of the applicable air-conditioning product using equations D16.4/D16.5 or F4.4/F4.5, the *Cooling Annual Energy Use* and the *Heating Annual Energy Use* are:

- If the air conditioner has a new ZERL, the values of energy use are on the label for the climate zone in which the product is installed. The climate zone of each NSW postcode is listed in Table A27 of the Rule.
- If the air conditioner does not have a ZERL, energy use is equal to the values of “Residential tcec” or “Commercial tcec” and “Residential thec” or “Commercial thec” in the GEMS Registry. In the GEMS Registry the equivalent values are:
  - “Residential tcec” and “Residential thec” for the average zone is “Residential tcec\_mixed” and “Residential thec\_mixed”
  - “Commercial tcec” and “Commercial thec” for the average zone is “Commercial tcec\_mixed” and “Commercial thec\_mixed”
  - “Residential tcec” and “Residential thec” for the cold zone is “Residential tcec\_cold” and “Residential thec\_cold”, and
  - “Commercial tcec” and “Commercial thec” for the cold zone is “Commercial tcec\_cold” and “Commercial thec\_cold”.
- If the air conditioner does not have a ZERL or “tcec/thec” values in the GEMS Registry, energy use is determined with reference to the *Cooling Capacity* and *Heating Capacity* on the old Energy Rating Label, equivalent cooling/heating hours and the “Rated AEER” and “Rated ACOP” of the air-conditioning product from the GEMS Registry.

## 2.4 Worked examples

An ACP will need to use different equations to calculate energy savings for an implementation depending on the availability of GEMS Registry values. We provide examples of how the activity definitions may apply in different scenarios below as a guide.

Table 3 Worked example 1

Details	Inputs and calculations	
Scenario	Method: HEER Activity: D16 - Install new air conditioner The product does not meet equipment requirements	
Product	Climate zone in which the product is installed: Average Zone Configuration: Air-air, non-ducted, split system (Source: GEMS Registry) Residential TCSPF_mixed value: N/A (Source: GEMS Registry) Rated AEER: 2.9753 (Source: GEMS Registry) Cooling Capacity (R): 4.9 kW (Source: GEMS Registry)	
Equipment requirements	Product is registered in the GEMS Registry.	New EUE meets Equipment Requirement 1.
	Rated AEER < 3.6 (Minimum Rated AEER for air-air, split system, non-ducted, R=4.9kW) (Source: Table D16.5 ESS Rule).	New EUE does not meet Equipment Requirement 2b.
<b>Since the equipment requirements are not met, the energy savings for this product cannot be calculated.</b>		

Table 4 Worked example 2

Details	Inputs and calculations	
Scenario	Method: HEER Activity: D16 - Install new air conditioner The product meets equipment requirements but there are no ZERL, TCSPF or HSPF values	
Product	Location of implementation: Sydney (Postcode: 2000) Climate zone in which the product is installed: Average Zone (Source: Table A27 ESS Rule) Configuration: Air-air, non-ducted, split system (Source: GEMS Registry) Residential TCSPF_mixed value: N/A (Source: GEMS Registry) Residential HSPF_mixed value: N/A (Source: GEMS Registry) Rated AEER: 4.8697 (Source: GEMS Registry) Rated ACOP: 5.4853 (Source: GEMS Registry) Cooling Capacity (R): 2.5 kW (Source: GEMS Registry) Zoned Energy Rating Label: N/A (assumption)	
Equipment requirements	Product is registered in the GEMS Registry.	New EUE meets Equipment Requirement 1.
	Rated AEER > 4.3 (Minimum Rated AEER for air-air, split system, non-ducted, R=2.5 kW) (Source: Table D16.5 ESS Rule).	New EUE meets Equipment Requirement 2b.
	Rated ACOP > 4.4 (Minimum Rated ACOP for air-air, split system, non-ducted, R=2.5 kW) (Source: Table D16.5 ESS Rule).	New EUE meets Equipment Requirement 3b.

Details	Inputs and calculations
<b>Calculation of energy savings</b>	
<b>Step 1:</b> Reference Cooling Annual Energy Use	<p><b>Equation D16.2:</b> Reference Cooling Annual Energy Use = Cooling Capacity × Equivalent Cooling Hours / Baseline Cooling AEER</p> <p>Cooling Capacity: 2.5 kW (Source: C-Total Cool Rated value in GEMS Registry)</p> <p>Equivalent Cooling Hours: 429 h/y (Source: Table D16.1 ESS Rule)</p> <p>Baseline Cooling AEER: 3.66 (Source: Table D16.2 ESS Rule)</p> <p><b>Reference Cooling Annual Energy Use = 2.5 kW x 429 h/y / 3.66 = 293.03 kWh/y</b></p>
<b>Step 2:</b> Reference Heating Annual Energy Use	<p><b>Equation D16.3:</b> Reference Heating Annual Energy Use = Heating Capacity × Equivalent Heating Hours / Baseline Heating ACOP</p> <p>Heating Capacity: 3.2 kW (Source: H-Total Heat Rated value in GEMS Registry)</p> <p>Equivalent Heating Hours: 648 h/y (Source: Table D16.1 ESS Rule)</p> <p>Baseline Heating ACOP: 2.33 (Source: Table D16.2 ESS Rule)</p> <p><b>Reference Heating Annual Energy Use = 3.2 kW x 648 h/y / 2.33 = 889.96 kWh/y</b></p>
<b>Step 3:</b> Cooling Annual Energy Use	<p>ZERL: N/A</p> <p>Residential tcec_mixed: N/A (Source: GEMS Registry)</p> <p>Residential thec_mixed: N/A (Source: GEMS Registry)</p> <p>} Equation D16.4 applies</p> <p><b>Equation D16.4:</b> Cooling Annual Energy Use = Cooling Capacity × Equivalent Cooling Hours / Rated AEER</p> <p>Cooling Capacity: 2.5 kW (Source: C-Total Cool Rated value in GEMS Registry)</p> <p>Equivalent Cooling Hours: 429 h/y (Source: Table D16.1 ESS Rule)</p> <p>Rated AEER: 4.8697 (Source: GEMS Registry)</p> <p><b>Cooling Annual Energy Use = 2.5 kW x 429 h/y / 4.8697 = 220.24 kWh/y</b></p>
<b>Step 4:</b> Heating Annual Energy Use	<p>ZERL: N/A</p> <p>Residential tcec_mixed: N/A (Source: GEMS Registry)</p> <p>Residential thec_mixed: N/A (Source: GEMS Registry)</p> <p>} Equation D16.5 applies</p> <p><b>Equation D16.5:</b> Heating Annual Energy Use = Heating Capacity × Equivalent Heating Hours / Rated ACOP</p> <p>Heating Capacity: 3.2 kW (Source: H-Total Heat Rated value in GEMS Registry)</p> <p>Equivalent Heating Hours: 648 h/y (Source: Table D16.1 ESS Rule)</p> <p>Rated ACOP: 5.4853 (Source: GEMS Registry)</p> <p><b>Heating Annual Energy Use = 3.2 kW x 648 h/y / 5.4853 = 378.03 kWh/y</b></p>
<b>Step 5:</b> Activity Energy Savings	<p><b>Equation D16.1:</b> Deemed Activity Electricity Savings = [(Reference Cooling Annual Energy Use - Cooling Annual Energy Use) + (Reference Heating Annual Energy Use - Heating Annual Energy Use)] × Lifetime / 1000</p> <p>Reference Cooling Annual Energy Use: 293.03 kWh/y (Calculation Step 1)</p> <p>Reference Heating Annual Energy Use: 889.96 kWh/y (Calculation Step 2)</p> <p>Cooling Annual Energy Use: 220.24 kWh/y (Calculation Step 3)</p> <p>Heating Annual Energy Use: 378.03 kWh/y (Calculation Step 4)</p> <p>Lifetime: 10 years (Source: Table D16.6 ESS Rule)</p> <p><b>Deemed Activity Electricity Savings = [(293.03 kWh/y - 220.24 kWh/y) + (889.96 kWh/y - 378.03 kWh/y)] x 10 years / 1000 = 5.85 MWh</b></p>

Table 5 Worked example 3

Details	Inputs and calculations
Scenario	<p>Method: HEER</p> <p>Activity: D16 - Replace air conditioner</p> <p>The product meets the equipment requirements but there is no ZERL but there is TCSPF and HSPF values</p>
Product	<p>Location of implementation: Ballina (Postcode: 2478)</p> <p>Climate zone in which the product is installed: Hot Zone (Source: Table A27 ESS Rule)</p> <p>Configuration: Air-air, non-ducted, split system (Source: GEMS Registry)</p> <p>Residential TCSPF_mixed value: 4.6 (Source: GEMS Registry)</p> <p>Residential HSPF_mixed value: 4.093 (Source: GEMS Registry)</p> <p>Rated AEER: 3.5824 (Source: GEMS Registry)</p> <p>Rated ACOP: 3.7702 (Source: GEMS Registry)</p> <p>Cooling Capacity (R): 7.1 kW (Source: GEMS Registry)</p> <p>Zoned Energy Rating Label: N/A (assumption)</p>
Equipment requirements	<p>Equipment is registered in the GEMS Registry. <b>New EUE meets Equipment Requirement 1.</b></p> <p>Residential TCSPF_mixed &gt; 4.5 (Minimum Residential TCSPF_mixed for air-air, split system, non-ducted, R=7.1 kW) (Source: Table D16.4 ESS Rule). <b>New EUE meets Equipment Requirement 2a.</b></p> <p>Residential HSPF_mixed &gt; 4.0 (Minimum Residential HSPF_mixed for air-air, split system, non-ducted, R=7.1 kW) (Source: Table D16.4 ESS Rule). <b>New EUE meets Equipment Requirement 3a.</b></p>
<b>Calculation of energy savings</b>	
<b>Step 1:</b> Reference Cooling Annual Energy Use	<p><b>Equation D16.2:</b> Reference Cooling Annual Energy Use = Cooling Capacity × Equivalent Cooling Hours / Baseline Cooling AEER</p> <p>Cooling Capacity: 7.1 kW (Source: C-Total Cool Rated value in GEMS Registry)</p> <p>Equivalent Cooling Hours: 1,274 h/y (Source: Table D16.1 ESS Rule)</p> <p>Baseline Cooling AEER: 2.93 (Source: Table D16.3 ESS Rule)</p> <p><b>Reference Cooling Annual Energy Use = 7.1 kW x 1,274 h/y / 2.93 = 3,087.17 kWh/y</b></p>
<b>Step 2:</b> Reference Heating Annual Energy Use	<p><b>Equation D16.3:</b> Reference Heating Annual Energy Use = Heating Capacity × Equivalent Heating Hours / Baseline Heating ACOP</p> <p>Heating Capacity: 8 kW (Source: H-Total Heat Rated value in GEMS Registry)</p> <p>Equivalent Heating Hours: 109 h/y (Source: Table D16.1 ESS Rule)</p> <p>Baseline Heating ACOP: 1.97 (Source: Table D16.3 ESS Rule)</p> <p><b>Reference Heating Annual Energy Use = 8 kW x 109 h/y / 1.97 = 442.64 kWh/y</b></p>
<b>Step 3:</b> Cooling and Heating Annual Energy Use	<p>ZERL: N/A</p> <p>Residential tcec_hot: 1915 (Source: GEMS Registry)</p> <p>Residential thec_hot: 151 (Source: GEMS Registry)</p> <p><b>Cooling Annual Energy Use = 1,915 kWh/y</b></p> <p><b>Heating Annual Energy Use = 151 kWh/y</b></p>

Details	Inputs and calculations
<b>Step 4:</b> Activity Energy Savings	<p><b>Equation D16.1:</b> Deemed Activity Electricity Savings = [(Reference Cooling Annual Energy Use - Cooling Annual Energy Use) + (Reference Heating Annual Energy Use - Heating Annual Energy Use)] × Lifetime / 1000</p> <p>Reference Cooling Annual Energy Use: 3,087.17 kWh/y (Calculation Step 1)            Reference Heating Annual Energy Use: 442.64 kWh/y (Calculation Step 2)            Cooling Annual Energy Use: 1,915 kWh/y (Calculation Step 3)            Heating Annual Energy Use: 151 kWh/y (Calculation Step 3)            Lifetime: 10 years (Source: Table D16.6 ESS Rule)</p> <p><b>Deemed Activity Electricity Savings = [(3,087.17kWh/y – 1,915 kWh/y) + (442.64 kWh/y - 151 kWh/y)] x 10 years / 1000 = 15 MWh</b></p>

### 3 Refrigeration activities

Refrigeration activities under Activity Definition F1 have been amended to align with the *Greenhouse and Minimum Energy Performance Standards (Refrigerated Cabinets) Determination (2020)*, which commenced on 1 May 2021. This is to reflect the evolution of refrigerated cabinets to service different refrigeration tasks and temperature ranges, and to account for the different baseline energy efficiencies of such tasks and temperature ranges.

Refrigeration activities under Activity Definition F1 now permit the replacement of an existing refrigerated cabinet as well as the installation of a new high efficiency refrigerated cabinet, which was contemplated by the old ESS Rule.

The installation requirements now require that the activity, including the removal of any existing EUE (where applicable), be performed or supervised by a suitably qualified licence holder in compliance with the relevant standards and legislation. In some cases, relevant standards and legislation may not require a qualified licence holder to install or remove the EUE (for example, for “plug in” cabinets).

The installation requirements also include a requirement that only applies in cases where the new refrigerated cabinet is replacing existing EUE of the same type, function, output or service (i.e. for **Replacement Installations**). This requirement does not apply where the new refrigerated cabinet is not replacing existing EUE of the same type, function, output or service (i.e. for **New Installations**).

#### Replacement Installations

A Replacement Installation occurs where the new refrigerated cabinet is installed to replace existing less efficient equipment of the same type, function, output or service previously in its place. This would typically result in the existing equipment becoming redundant, or largely unused.

The installation requirement for Replacement Installations stipulate that the existing EUE must be removed (from site).

Further, the activity will only constitute a RESA (an activity from which ESCs can be created), if:

- the existing (i.e. the replaced) EUE is not refurbished, re-used or re-sold, and

- recycling evidence is obtained for any refrigerants being disposed of, such as a tax invoice or a recycling receipt, or any other evidence acceptable to the Scheme Administrator.<sup>f</sup>

### New Installations

A New Installation occurs where the refrigerated cabinet is installed where either:

- there is no existing EUE of the same type, function, output or service, or
- where there is existing EUE of the same type, but the refrigerated cabinet is not replacing this EUE (such as where it will provide additional capacity).

For New Installations there is no requirement to remove any existing EUE as that equipment remains in use.

## 3.1 Minimum required records

The Scheme Administrator has changed the minimum required records for F1 to reflect the new ESS Rule. We have been conservative with evidence requirements to avoid imposing a significant burden on ACPs' record keeping obligations. Our reasons for the new or updated evidence requirements is provided in Table 6.

Table 6 Changed evidence requirements for refrigerated cabinets

ESS Rule change	Change to evidence requirement	Reason
<b>Activity definition F1 (IHEAB)</b>		
Change the maximum energy efficiency index ( <b>EEl</b> ) from 77 to 81, except for Class 5 Integral Ice Cream Freezer Cabinets which must have an EEl below 51.	<ul style="list-style-type: none"> <li><b>Update</b> existing evidence requirement to reflect the new EEl requirements.</li> </ul>	<ul style="list-style-type: none"> <li>To reflect the changes to the EEl.</li> </ul>
Add installation requirements: <ul style="list-style-type: none"> <li>Existing equipment must be removed.</li> <li>If applicable, the activity must be performed or supervised by a qualified licence holder in compliance with relevant standards and legislation.</li> </ul>	<ul style="list-style-type: none"> <li><b>Amend</b> existing requirement (for either a tax invoice, CCEW or commissioning report) with either an installer declaration, CCEW or Commissioning Report.</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrate that additional installation requirements are met.</li> <li>For consistency with activity definition F4.</li> </ul>

<sup>f</sup> Clauses 5.3(a)(ii) and 5.3A of the ESS Rule.

## Key terms

**ACP** or **accredited certificate provider** means a person accredited as an energy savings certificate provider under Schedule 4A of the ES Act and whose accreditation is in force.

**Activity definition (AD)** means an activity as specified in a Schedule to the ESS Rule.

**ERL** means existing energy rating label.

**ES Act** means the *Electricity Supply Act 1995*.

**ESC** or **energy savings certificate** means an energy savings certificate created under Schedule 4A to the ES Act.

**ESS Rule** means the *Energy Savings Scheme Rule of 2009*. The ESS Rule sets out the specific requirements of each calculation method under the ESS.

**EUE** means End-User Equipment.

**GEMS Registry** means a published registry of products registered under either Greenhouse and Energy Minimum Standards or published Minimum Energy Performance Standards.

**HEER** means the Home Energy Efficiency Retrofits sub-method under clause 9.8 of the ESS Rule.

**HSPF** means the heating season performance factor.

**IHEAB** means the Installation of High Efficiency Appliances for Businesses sub-method under clause 9.9 of the ESS Rule.

**Implementation** means the delivery of a RESA at a Site.

**Implementation Date** is defined in each calculation method of the ESS Rule.

**RESA** or **recognised energy saving activity** means an activity in respect of which an energy savings certificate may be created under Schedule 4A to the ES Act.

**TCSPF** means the total cooling season performance factor.

**ZERL** means zoned energy rating label.