



ENERGY SAVINGS SCHEME

# Energy Savings Scheme Position Paper

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2020-21 Rule Change

January 2022



Published by NSW Department of Planning and Environment

[dpie.nsw.gov.au](http://dpie.nsw.gov.au)

Title: Energy Savings Scheme Position Paper

First published: 28/01/2022

ISBN: 978-1-76058-536-5

*Cover image: QJones/DPE*

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# Foreword

The [Net Zero Plan Stage 1: 2020-2030](#) is the foundation for NSW's action on climate change and goal to reach net zero emissions by 2050. It outlines the NSW Government's plan to take action and protect our future. It will grow the economy, create jobs and reduce emissions over the next decade.

The plan aims to strengthen the prosperity and quality of life of the people of NSW, while helping the state to deliver a 50% cut in emissions by 2030 compared to 2005 levels.

The Energy Savings Scheme (ESS) is an important element of the plan, encouraging the uptake of energy saving activities. The ESS will run until 2050, with an energy savings target gradually increasing to 13% by 2030 and an expanded set of eligible activities.

This paper explains the NSW Government's position on changes to the *Energy Savings Scheme Rule of 2009* (the ESS Rule) and responds to submissions received during public consultation. During the consultation, the NSW Government sought input from stakeholders to ensure any adopted changes are appropriate and reflect industry standards.

The changes are part of the NSW Government's commitment to continuous improvement of the ESS.

This paper includes a summary of stakeholder submissions on the proposed rule change, an explanation of the government's response and details of the final rule changes.

All rule changes commence on 28 February 2022, unless stated otherwise.

# Contents

<b>Part One: Introduction</b> .....	<b>3</b>
New activity linking the ESS and PDRS .....	3
1.1 Why is the ESS Rule updated? .....	3
1.2 ESS Rule Change Amendments 2020-21 .....	4
<b>Part Two: General changes</b> .....	<b>6</b>
2.1 Commencement date and transitional arrangements .....	6
2.2 Update ESS Rule references to the Act .....	7
2.3 Renewable Energy Target exclusions .....	7
2.4 Clarification on BASIX compliance .....	8
2.5 Define Electricity and Gas Savings for NABERS .....	9
2.6 Removing electricity to non-renewable gas fuel switching activities .....	9
2.7 Product acceptance by reference to product register .....	10
2.8 Clarification of references to standards .....	10
<b>Part Three: Deemed Energy Savings Methods</b> .....	<b>11</b>
3.1 Updates to Deemed Energy Savings Methods .....	11
3.1.1 Replace D3 & D4 with D16 (HEER) and update Activity Definition F4 (HEAB) .....	11
3.1.2 Update to Activity Definition F1 (HEAB) .....	12
3.1.3 Update to Note under Clause 9.8.1 (HEER) .....	15
3.1.4 Update to Activity Definitions E2, E3, E5 and E13 (HEER) .....	16
3.1.5 Update to Activity Definitions F7 (HEAB) .....	16
3.2 New Activities under the Deemed Energy Savings Methods .....	17
3.2.1 New Heat Pump and Solar Water Heaters (HEER) Activity Definitions .....	17
3.2.2 New Commercial and Industrial Heat Pump Water Heaters (HEAB) Activity Definitions .....	19
<b>Part Four: Metered Baseline Methods</b> .....	<b>21</b>
4.1 NABERS Baseline .....	21
4.1.1 Clarification of Forward Creation .....	21
4.1.2 Inclusion of New Building Types .....	21
<b>Part Five: Glossary</b> .....	<b>22</b>

## Part One: Introduction

The NSW Energy Savings Scheme (ESS) is the largest energy efficiency program in NSW and forms part of the NSW Government's Energy Security Safeguard (the Safeguard). As part of the Safeguard, the ESS will now operate with a new Peak Demand Reduction Scheme (PDRS). The Safeguard Position Paper<sup>1</sup> provides detail on the Safeguard and how the ESS and PDRS will work together to deliver savings for the people of NSW.

The ESS reduces electricity consumption in NSW by creating financial incentives for organisations to invest in energy saving projects. Energy savings are achieved by installing, modifying, removing, or replacing energy saving equipment.

The ESS works by placing an obligation on NSW energy retailers and other liable parties to each year surrender energy savings in the form of Energy Savings Certificates (ESCs). These certificates are created by Accredited Certificate Providers (ACPs) when energy users undertake eligible energy savings activities.

The *Electricity Supply Act 1995* (the Act) allows the Minister for Energy and Environment to approve rules that set out how ESCs can be created, including eligible activities and methods for calculating energy savings. These rules are published in the *Energy Savings Scheme Rule of 2009* (the ESS Rule).

### New activity linking the ESS and PDRS

The Safeguard Position Paper explains how the PDRS will increase peak demand reduction capacity through incentives for peak demand saving, shifting and response activities. The first set of rules for the PDRS will target peak demand savings, with eligible activities aligned to the following ESS activities:

- air conditioners
- heat pump water heaters
- solar water heaters
- refrigerated cabinets
- motors that are used in refrigeration and ventilation applications
- spare refrigerators and freezers.

The Department of Planning and Environment is working with IPART to design a seamless process for ACPs that are accredited to conduct these activities in the ESS to also become accredited under the PDRS. Stakeholder input from this ESS rule change process will inform the first round of ESS aligned PDRS activities. The PDRS Rule consultation scheduled for March 2022 will provide details of PDRS activities and eligibility.

### 1.1 Why is the ESS Rule updated?

The ESS Rule was first published in 2009. The 2014-2015 Review of the Scheme outlined the government's intention to update the ESS Rule each year. The updates will:

- respond to stakeholder feedback and evaluation
- keep the ESS Rule effective through updates to savings factors, changes to the Rule requirements and adding activity schedules for new technologies

<sup>1</sup> State of New South Wales and Department of Planning, Industry and Environment 2021, *Energy Security Safeguard Position Paper*, <https://www.energy.nsw.gov.au/sites/default/files/2021-09/energy-security-safeguard-position-paper-20210539.pdf>

- complement changes to building and equipment standards
- incorporate new methods for Energy Savings
- make other enhancements to the ESS Rule to maintain its integrity and/or reduce transaction costs.

As outlined in the Safeguard Position Paper, the NSW Government will work towards a more dynamic rule change process for the Safeguard in the coming years. This will involve increased digital delivery and improved stakeholder consultation. The Government will look for opportunities to streamline activities and administration across the Safeguard.

## 1.2 ESS Rule Change Amendments 2020-21

This year's review of the ESS Rule began with targeted air conditioning and heat pump water heater industry consultations in June 2020. This feedback, along with research and analysis by independent consultants, informed draft changes to the ESS Rule released for public consultation.

A month-long public consultation on the draft ESS Rule began on 23 June 2021, with a virtual forum attended by 99 participants held on 15 July 2021.

The final position on rule changes incorporates feedback from 14 written submissions provided by a range of stakeholders, including 5 ACPs, 5 equipment manufacturers, 2 consultancies and 2 industry associations. Where appropriate, the ESS rule includes changes responding to those submissions. Differences from the draft ESS Rule presented at the public consultation are summarised in Table 1:1 and explained throughout this document.

Public submissions are available on the [energy.nsw.gov.au](https://energy.nsw.gov.au) website.

**Table 1:1 Summary of changes from the proposed draft Rule**

Rule Method	Changes proposed in the draft ESS Rule and consultation paper	Summary of changes from the proposed draft Rule
General	2.1 Commencement date and transitional arrangements	Transitional arrangement for D10
	2.2 Update to ESS Rule references to the Act	Nil
	2.3 Remove some Renewable Energy Target exclusions	Nil
	2.4 Clarification on BASIX compliance	Nil
	2.5 Define Electricity and Gas Savings for NABERS	Nil
	2.6 Removing electricity to gas fuel switching activities	Removal of D19 and D10, amendment to F16
	2.7 Product acceptance by reference to product register	Clause 9.2.A.2(d) added
	2.8 Clarification of references to Standards	Clause 10.4A added
Updates to Deemed	3.1.1 Review and replace AC Activity Definitions D3 & D4 with D16 (HEER) and review and update Activity Definition F4 (HEAB)	Amendment of requirements



Rule Method	Changes proposed in the draft ESS Rule and consultation paper	Summary of changes from the proposed draft Rule
Savings Methods	3.1.2 Review and update refrigerated cabinets Activity Definition F1 (HEAB)	Streamlining to one energy savings equation Amendments to requirements
	3.1.3 Update to Note under Clause 9.8.1 (HEER)	Nil
	3.1.4 Update to Activity Definitions E2, E3, E5 and E13 (HEER)	Nil
	3.1.5 Update to Activity Definitions F7 (HEAB)	Minor changes to formula and Table F7.3.
New Deemed Savings Methods	3.2.1 Include new activities (D17 – D21 and F16 – F17) that support the installation of heat pump and solar water heaters in households and small business, and heat pump water heaters in commercial and industrial premises.	Adjustment of the baseline used for calculating energy savings for D17-D21
NABERS	4.1.1 Clarify that forward creation can only occur under Calculation Method 2.	Nil
	4.1.2 Allow energy savings to be calculated for NABERS-rated buildings in the Residential Aged Care and Retirement Living sectors.	Nil

## Part Two: General changes

### 2.1 Commencement date and transitional arrangements

Refer to the ESS Rule: Clause 1, Clause 3, Clause 11.16-11.19

The NSW Government proposed that:

- the ESS Rule would be gazetted in November 2021 and amendments to the ESS Rule would commence in December 2021
- residential and small business heat pump and solar water heater and commercial and industrial heat pump water heater activities would commence later than the commencement date of the ESS Rule
- 2021 vintage ESCs calculated using the old ESS Rule can be registered until 30 June 2022.

Eight submissions responded to the proposed commencement date and transitional arrangements, including 4 from ACPs, 2 from manufacturers, one from a consultancy and one from an Industry Association.

Seven submissions agreed with the proposed transitional arrangements and one disagreed.

One submission noted that more than one month is preferred between gazettal and commencement of the Rule, however the small nature of changes reduced the impact of having to prepare.

One submission highlighted that the Victorian and NSW public consultations on heat pump water heater activities were run close together, giving little time for stakeholders to review both sets of activities, but recognised efforts to harmonise between the 2 state schemes.

One submission suggested reducing the timeframe between gazettal and commencement for heat pump and solar water heater activities due to the efforts of the NSW Government to harmonise with the Victorian Government's VEU Scheme for these activities.

One submission suggested that introducing new activities for heat pump and solar water heaters could result in consumers delaying their purchase of these water heaters until the incentive is available. The submission suggested that this would negatively impact manufacturers and installers of solar hot water heaters, but this could be mitigated by allowing product registration before gazettal or backdating incentives to the gazettal date.

#### Government response

The NSW Government will proceed with the proposed changes.

A one-month notice period has been provided for activities where the changes are considered minor, and will require less preparation time.

For the new heat pump and solar water heater activities, a longer notice period will remain. This period will not be shortened as not all stakeholders are actively undertaking this activity in Victoria under the VEU Scheme, and new entrants will need longer to prepare.

The NSW and Victorian Governments have worked together to harmonise activities between the 2 schemes, hence the need to consult simultaneously. The notice period will not be lengthened as work to harmonise these activities has reduced the time and effort stakeholders will need to prepare for both schemes.



No special arrangements will be available between the gazettal date and commencement date for heat pump and solar water heater activities for the following reasons:

- water heater replacement activities are often conducted at end of life, and consumers are unlikely to forgo having hot water and delay the purchase of an efficient heat pump or solar water heater
- the ESS incentive for these activities is targeted at consumers who would otherwise select a less efficient water heater rather than those who would actively postpone the purchase of the same water heater
- the Scheme Administrator and ACPs will likely require longer to get systems ready for these new activities, including the product registry.

### Changes from the proposed Rule

Nil.

## 2.2 Update ESS Rule references to the Act

Refer to the ESS Rule: throughout

The NSW Government proposed amendments to the ESS Rule to reflect the updated Parts, Divisions and Sections within the Act.

No submissions provided comment on this topic.

### Government response

The NSW Government will proceed with the proposed changes.

### Changes from the proposed Rule

Nil.

## 2.3 Renewable Energy Target exclusions

Refer to the ESS Rule: Clause 5.4(g)

The NSW Government proposed to amend clause 5.4(g) of the ESS Rule to allow heat pump and solar water heater activities that are eligible to create tradable certificates under the *Renewable Energy (Electricity) Act 2000 (Cth)*.

Seven submissions responded to this proposal including 3 from ACPs, 2 from manufacturers, one from a consultancy and one from an Industry Association.

All submissions supported the amendment to allow heat pump and solar water heater activities that are eligible under the RET to also be undertaken in the ESS. However, many expressed confusion over whether an installation of heat pump or solar water heaters was eligible to create both ESCs under the ESS and STCs under the RET.

One submission from a manufacturer highlighted that if incentives are received from both the ESS and RET, the price of the End-User Equipment (EUE) may reduce to a point where negative impacts are seen in the industry.

## Government response

The NSW Government will proceed with the proposed changes.

Heat pump and solar water heater activities that have claimed incentives under the RET can also be eligible to create incentives under the ESS if the implementation meets the requirements of the Scheme.

Federal incentives for heat pump and solar water heaters taper down each year and end with the conclusion of the RET in 2030. Through prior consultation on the Safeguard, several stakeholders flagged the need for the ESS to incentivise heat pump and solar water heater activities to avoid the market reverting and increasing the uptake of less efficient electric and gas water heaters. Incentives through the ESS will play an important part in continuing to increase uptake of heat pump and solar water heater activities which otherwise would face the barrier of high upfront cost.

By setting a high efficiency threshold for heat pump and solar water heaters, more high efficiency products will be accessible to consumers. The heat pump and solar water heater market is much more mature than it was when RET incentives for water heaters were introduced. This will allow the market to handle the increased demand for high efficiency products and will drive innovation in the market.

## Changes from the proposed Rule

Nil.

## 2.4 Clarification on BASIX compliance

Refer to the ESS Rule: Clause 5.4(b)

The NSW Government clarified that activities such as replacing air conditioners and heat pump water heaters, that form part of dwelling alterations and additions that cost \$50,000 or more, are not considered as activities undertaken in order to comply with BASIX requirements and are eligible to create ESCs where all requirements are met.

None of the submissions commented on this topic.

## Government response

The clarification in the consultation paper remains the position of the NSW Government.

## Changes from the proposed Rule

Clause 5.3 (e)(iii) has been revised to reflect the definition of BASIX alterations and additions in clause 3 of the *Environmental Planning and Assessment Regulation 2000*.

## 2.5 Define Electricity and Gas Savings for NABERS

Refer to the ESS Rule: Clause 10.1, Method 4 – NABERS Benchmark

The NSW Government proposed updates to the definitions of Electricity and Gas Savings

Five submissions responded to this proposal, including 4 from ACPs and one from a manufacturer. All submissions supported this proposal.

### Government response

The NSW Government will proceed with the proposed changes.

### Changes from the proposed Rule

Nil.

## 2.6 Removing electricity to non-renewable gas fuel switching activities

The Energy Security Safeguard Position Paper states that the ESS Rule will be amended to remove new fuel switching activities from electricity to non-renewable gas such as natural gas and liquified petroleum gas (LPG)<sup>2</sup>. This will free up gas supply for use in industries such as manufacturing.

Table 2:1 summarises changes to the ESS Rule bringing this position into effect.

**Table 2:1 Summary of fuel switching activities that will not proceed**

Activity	Description	Impact
D19*	Replace an existing electric water heater with a solar (gas boosted) water heater	Will not proceed
D10	Replace an existing electric water heater with a high efficiency gas fired water heater	Removed from ESS Rule, can no longer be used to create ESCs
F16	Replace an existing electric water heater with a gas-boosted heat pump water heater	Will not proceed

\*Activity number as proposed in the Energy Savings Scheme 2020-2021 Consultation Paper

Activity D10 has been removed from the ESS Rule and can no longer be used to create certificates. No implementations have taken place using this activity so the impact to stakeholders of removing this activity is considered to be zero.

<sup>2</sup> State of New South Wales and Department of Planning, Industry and Environment 2021, *Energy Security Safeguard Position Paper*, <https://www.energy.nsw.gov.au/sites/default/files/2021-09/energy-security-safeguard-position-paper-20210539.pdf> page 24.

## 2.7 Product acceptance by reference to product register

Clause 9.2.A.2(d) has been added to the ESS Rule. This clause allows the Scheme Administrator to publish a reference to a product register published by a specified body. This will allow the Scheme Administrator to refer to solar and heat pump water heaters that are accepted by the Victorian Essential Services Commission.

## 2.8 Clarification of references to standards

Clause 10.4A has been amended and expanded to allow the Scheme Administrator to specify which version of AS/NZS 4234 applies where referred to in Activity Definitions D17, D18, D19, D20, D21, F16 and F17.

## Part Three: Deemed Energy Savings Methods

### 3.1 Updates to Deemed Energy Savings Methods

#### 3.1.1 Replace Activity Definition D3 & D4 with D16 (HEER) and update Activity Definition F4 (HEAB)

Refer to the ESS Rule: Activity Definition D16, Activity Definition F4

The NSW Government proposed updates to combine Activity Definitions D3 and D4 into one Activity Definition D16 that aligns with the new GEMS (Air Conditioners up to 65kW) Determination 2019, and to align Activity Definition F4 to the new Air Conditioner Determination.

Seven submissions responded to this proposal, including 4 from ACPs, 2 from manufacturers and one from an industry association.

In general, submissions supported the proposed updates to formulas and streamlining of the air conditioning Activity Definitions. 3 ACPs noted that the new formula simplifies the calculation of energy savings for this activity, while one ACP stated that the new formula is complicated.

Most submissions expressed that the requirement for new EUE to be 20% above the baseline was prohibitive for systems larger than 5 kW. Two manufacturers recommended that baselines use TCSPF and HSPF rather than AEER and ACOP. They better represent real world performance and they are the preferred energy performance measure used by manufacturers.

Two ACPs and one industry association expressed that it is sometimes difficult to remove existing EUE when replacing an air conditioner. They suggested that EUE could, in some cases, be decommissioned to allow for old products to be left in place. One of these submissions suggested an additional step where the refrigerant needs to be removed by an appropriate person with a refrigerant handling licence to ensure the decommissioning is complete.

One ACP stated that the requirement for Site Assessments to be conducted on or before the Implementation Date leads to unnecessary cost and administrative burden for no additional benefit.

Several stakeholders did not see over-sizing as a concern given the incentive levels are not high enough to influence poor design behaviours, including 2 ACPs and one manufacturer who suggested that installers use manufacturer recommendations or heat load calculations to determine the appropriate system size.

Several submissions supported the proposed amendment to the installation requirements for commercial applications to allow the activity to be carried out in centralised systems and the common areas of Class 2 buildings.

Submissions gave mixed responses regarding the demand response capability of air conditioners. In general, submissions saw the requirement for demand response capability as an important and forward-thinking move, but not necessarily a relevant energy savings measure.

Four ACPs and one Industry Association concluded that the incentive level was a barrier to the uptake of this activity even with the updates to the activities and increased incentive levels.

#### **Government response**

The Government will proceed with the proposed changes to the activity definitions and requirements with some amendments.

The Government has amended the energy savings formula to provide consistency between the heating and cooling annual energy use and the reference heating and cooling annual energy use. This change further simplifies the formula, making it easier for stakeholders to use.

The Government has further analysed the eligibility above baseline levels to ensure there aren't gaps in the market that result in low activity uptake. Eligibility above the baseline will be based on the TCSPF and HSPF where available. The equivalent AEER and ACOP values will also be supplied where TCSPF and HSPF are unavailable for certain products.

The NSW Government will not allow for old products to be decommissioned in place where removal of existing EUE is difficult. Allowing decommissioning in place adds the administrative burden of providing evidence that removing the old equipment would be impractical and that the refrigerant has been removed. Since this change impacts only a minimal number of cases and would incur the cost of refrigerant removal, it is not included.

The NSW Government will not change the requirement for Site Assessments to be conducted on or before the Implementation Date. It may be considered in a future rule change.

No requirements for heat load calculations or sizing in line with the manufacturer recommendations will be introduced as it is not practical to administer this requirement. Instead, the Government will work with the air conditioning industry to find a workable, long-term solution that ensures installers are correctly sizing EUE.

In centralised systems and the common areas of Class 2 buildings, the Rules will only allow activities where EUE is being replaced. Where new EUE is installed, it will be too complex to prove that activities are not done to comply with BASIX requirements.

The NSW Government will not require demand response capability in models installed through the ESS. The ESS incentives for air conditioning activities represent the value of energy savings only.

However, the PDRS has been established under the Safeguard to create capacity to reduce peak demand. It is likely to provide incentives to take up demand response-enabled equipment. There may be further incentives available for the same activity, if it creates peak demand reduction capacity through the PDRS.

### Changes from the proposed Rule

Energy use equations have been updated to replace the use of Power Input in the Cooling and Heating Energy Use formulas with the Rated AEER and ACOP.

Baselines have been consolidated into a smaller, easier to read table. The row headers for this table align with the minimum requirement table (HEER Tables D16.4, D16.5, HEAB Tables F4.4, F4.5)

A new table has been created instead of one minimum requirement for EUE to perform 20% above the baseline. This table separates minimum requirements by GEMS (Greenhouse Energy Minimum Standards) product class and system size.

## 3.1.2 Update to Activity Definition F1 (HEAB)

Refer to the ESS Rule: Activity Definition F1

The NSW Government proposed changes to Activity Definition F1 as a result of the new *Greenhouse and Minimum Energy Performance Standards (Refrigerated Cabinets)*



*Determination 2020.* The proposed changes included 5 new Activity Definitions (F1.1 – F1.5) for the 5 refrigerated cabinet types with each having its own equation. Revised Equipment and Installation Requirements were also proposed.

At the Public Consultation Forum on 15 July 2021, the NSW Government presented an alternative approach to the 5 Activity Definitions and equations proposed in the Consultation Paper. This approach involved a single equation that would apply for all 5 refrigerated cabinet types.

Eight submissions were received on refrigerated cabinets from 5 ACPs, an equipment manufacturer, an energy consultant and an industry association. Of the 8 submissions, 6 fully or partially supported the updated calculation method and requirements. These submissions stated that aligning with the GEMS (Refrigerated Cabinets) Determination 2020 EEI method for MEPS and introducing new EEI baselines is a positive change for the ESS

The concerns raised by these submissions mainly focused on using the GEMS database to inform the baseline EEI values. Specific comments on this included:

- apprehension surrounding the consistency and reliability of GEMS data
- the complexity of the GEMS database and the consequent administrative burden associated with its use.

The 2 submissions which disagreed with the updated approach cited the following reasons:

- fewer ESCs will be created for several classes of Refrigerated Display Cabinet
- the GEMS Registry data is complicated and specialist knowledge will be required to understand and use it.

Using the GEMS Registry data to calculate ESCs is a high risk to ACPs as it is managed by a third party and is subject to change without notice. One ACP submission, that did not agree or disagree specifically with the proposed approach, also had concerns regarding using the GEMS registry. This ACP suggested that the Scheme Administrator maintain a simpler online listing of GEMS Registry data with the specific parameters necessary for ESC calculations.

Three submissions supported the simplified equation presented at the public forum because it is:

- a more streamlined method with fewer independent variables, making it easier to calculate savings
- simpler and less reliant on the GEMS registry, resulting in more accurate calculation of ESCs.

There was one submission that did not agree with the proposal. The reason was that a single activity definition would not be suited to the different groups of refrigerated cabinets with Integral RDCs, Remote RDCs, RSCs, GSC/ISC and Ice cream freezers which have unique installation requirements and cabinet characteristics.

In general, submissions from ACPs stated that the proposed EEI baseline values were too low, leading to low ESC creation and financial incentives. Two submissions identified the baselines for Activity F1.5 (Refrigerated Storage Cabinets classes 3,4,9,10) as being too low to provide reasonable incentives. Another submission from an equipment supplier suggested baseline EEI values for the Activity F1.5 product classes which are substantially higher than those proposed. The justification was that the incentive should be 20% of the purchase price. The manufacturer's submission provided a detailed analysis of equipment classes 3,4,7,8,9 and 10 and proposed baseline EEI values for each of these classes based on the target 20% of purchase price incentive.

One submission supported the EEI baselines so that the products that substantially outperform the GEMS 2020 standards would be recognised for a level of energy savings that would drive greater uptake.

Only one submission provided any comment on the proposed maximum EEI values (thresholds) for ESC creation. The submission from an equipment manufacturer suggested that reducing the EEI threshold from 80 to 60 would remove incentives for products having poorer efficiency.

Two submissions expressed concern over products that were registered before 2020 and therefore do not have values of EEI recorded in the GEMS registry. As the Rule requires that the products be registered in GEMS and have an EEI value, the older products do not meet this criterion. One stakeholder proposed transitional arrangement clauses, involving the use of data provided by the equipment manufacturer.

The Consultation Paper posed the question *'Do you consider there to be any other barriers to the uptake of these activities?'* In response to this question, 3 of the submissions cited that it is unnecessary to require a qualified electrician or refrigerant handler to plug in integral devices such as those included in Activity Definitions F1.1, F1.2, F1.4 and F1.5. It was acknowledged that for Activity F1.3 (remote display refrigerators), licensing requirements are imperative. One of the submissions suggested that clarity over requirements such as these could help reduce ambiguity.

### **Government response**

The NSW Government acknowledged the overall agreement with the proposed approach, however recognised that there are concerns regarding the use of GEMS. As a result, the NSW Government investigated the issues raised surrounding the GEMS database and the suggestion that the Scheme Administrator maintain a simplified online GEMS listing. Following discussions with the GEMS Regulator, NSW Government confirmed that the GEMS product registration process is robust and the data reliable.

The suggestion for the Scheme Administrator (IPART) to maintain a simpler online extract of the GEMS database would add to the administrative cost of the Scheme and duplicate the work of the Commonwealth.

The NSW Government will adopt the simplified equation for calculating Deemed Equipment Electricity Savings to be used for Activities F1.1 to F1.5. The equation was derived using the Equations for EEI, AEC and RAEC that are defined in the *Greenhouse and Energy Minimum Standards (Refrigerated Cabinets) Determination 2020*.

It will still capture the unique installation requirements and cabinet characteristics via the parameter lookup table and Equipment Requirements clauses.

The EEI threshold levels are based on the 2023 EU MEPS values and depending on product class, between 45% and 100% of products on the GEMS registry can meet this performance standard. If this threshold were lowered from EEI 80 to EEI 60, less than 50% of products overall would meet this level, and for some product classes, less than 30% of products would be eligible.

In developing the proposed baseline EEI values, the NSW Government conducted an extensive analysis of expected ESC creation rates for all RC products in the GEMS database. This analysis found that:

- the average financial incentive across all product classes is 7% of product cost. This is dependent on product class and is 17% for class 7 products
- for the more efficient products in each class, the average incentive is 18%. This is dependent on product class and ranges from 5% for class 12 to 50% for class 8 products.

The NSW Government will monitor the level of uptake of the Activities with the proposed Baseline EEI values.

Products registered in the GEMS database before the 2020 Determination do not have corresponding EEI values. The NSW Government notes that there are several products registered under the 2012 Determination that are designated as 'Approved' with no corresponding EEI value in the GEMS Registration database.

The NSW Government considered the stakeholder suggestion to allow manufacturer-provided data to be used in EEI and ESC calculations. As it would involve using manufacturer data not approved by GEMS, it does not represent an equitable option. The GEMS Registry team has advised the NSW Government that it is not possible to calculate EEI values for the 2012 products using registry data.

However, there are 2 options for products registered under the 2012 GEMS Determination to be transitioned to the 2020 Determination, provided that the products can meet the new MEPS:

1. The product registration can be updated. Suppliers are required to show evidence that the product is compliant, and updated registrations are valid until the original expiry date of the registration (a maximum of 5 years).
2. The Registrant can have the 2012 approval cancelled and apply for the product be assessed following the 2020 Determination.

No transitional arrangements will be provided where products are registered under the 2012 Determination. As registrations are valid for 5 years, a parallel arrangement would need to be provided until 2025 to accommodate 2012 products. This approach would add complexity to this activity and increase the administrative burden for the Scheme Administrator.

The Rule requires that a suitably qualified licence holder complete the work to comply with the relevant standards and legislation. The Scheme Administrator specifies what evidence is required to demonstrate that the installer has complied with this requirement.

### Changes from the proposed Rule

The simplified single equation for each of the 5 refrigerated cabinet types and represented below will be adopted.

$$\text{Deemed Equipment Electricity Savings} = \text{TEC} \times ((\text{Baseline EEI} / \text{Product EEI}) - 1) \times af \times 365 \times \text{Lifetime}/1000$$

The Equipment and Installation Requirements are standard across all Activities.

The equation, which is now common across all Activities, will be accompanied by look-up tables that will provide values for the adjustment factor *af*, Baseline EEI and product lifetime for all GEMS product classes.

### 3.1.3 Update to Note under Clause 9.8.1 (HEER)

Refer to the ESS Rule: Note under Clause 9.8.1

The NSW Government proposed to update the text of the Note under 9.8.1. The Note refers to clause 9.8.1(g), however the reference should now be to clause 9.8.1(f). The NSW Government proposes to replace the 2 mentions of "9.8.1(g)" with "9.8.1(f)".

Two submissions were received in response to this proposal, including 2 ACPs and one industry association.

All submissions supported this change.

**Government response**

The NSW Government will proceed with the proposed changes.

**Changes from the proposed Rule**

Nil.

### 3.1.4 Update to Activity Definitions E2, E3, E5 and E13 (HEER)

Refer to the ESS Rule: Activity Definitions E2, E3, E5 and E13

The NSW Government proposed an update to Activity Definitions E2, E3, E5 and E13. Currently, the Activity Definitions refer to Table A9.2 of Schedule A for the Lamp Circuit Power (LCP) value. However, the reference should be to Table A9.4 of Schedule A. The NSW Government proposes to replace the reference to “Table A9.2” under Activity Definitions E2, E3, E5 and E13 with “Table A9.4”.

Two submissions were received in response to this proposal, including one ACP and one industry association.

Both submissions supported this change.

**Government response**

The NSW Government will proceed with the proposed changes.

**Changes from the proposed Rule**

Nil.

### 3.1.5 Update to Activity Definitions F7 (HEAB)

Refer to the ESS Rule: Activity Definitions F7

**Changes from the proposed Rule**

The Deemed Equipment Electricity Savings formula for Activity Definition F7 (Install a new high efficiency motor) has been updated. It now reflects the calculation of motor input power using the rated output and efficiency.

Table F7.3 has also been updated to correct a typo.

## 3.2 New Activities under the Deemed Energy Savings Methods

### 3.2.1 New Activity Definitions D17, D18, D19, D20, D21 – Heat Pump and Solar Water Heaters (HEER)

Refer to the ESS Rule: Activity Definitions D17 – D21

The NSW Government proposed to introduce Activity Definitions D17, D18, D19, D20 and D21.

Eight submissions were received concerning introducing these activities. Two were received from manufacturers, 4 from ACPs and 2 from industry associations. All submissions were in favour of introducing these activities. One submission raised concern about potential issues if subsidies resulted in nil cost products.

One submission expressed concern that the activities could promote oversizing in new-build scenarios. However, these activities do not apply to scenarios, such as new-build, where existing regulations require the installation of efficient water heaters. One submission suggested that these activities could effectively encourage under-sizing. One submission suggested that the proposed incentive would not be sufficient to drive significant take-up of the activities.

Most submissions indicated that customers would be unlikely to face higher energy bills from using these activities. However, correct specification and sizing of systems would be important to mitigate this risk.

Four submissions indicated that the proposed baseline for existing products was too low and should be increased.

There was no clear consensus from submissions regarding the prevalence of a back-up element operating in high ambient temperatures.

Two submissions indicated that they would consider becoming accredited as a result of these activities. One manufacturer indicated they would not become accredited but would work with existing ACPs to provide product supply. The remaining respondents suggested that the proposed incentive was not sufficient to attract interest.

In terms of barriers to uptake of these activities, there were 2 key themes. Firstly, 4 submissions suggested that the financial incentive would not be sufficient to overcome administrative and auditing requirements. Secondly, there were some concerns that using TRNSYS to evaluate products would be costly and cumbersome due to technical complexity.

#### **Government response**

The NSW Government will introduce these activities but will revise the baseline used to calculate energy savings. The NSW Government is conducting a study into hot water usage to inform an appropriate value to use as a baseline in the long-term. The COVID-10 pandemic has delayed this project. Until the result of this study is known, the baseline will be aligned with that prescribed in AS/NZS 4234 (2021).

The NSW Government will also retain the requirement to use TRNSYS for the product modelling. Aligning this requirement with the RET and VEU schemes will result in net administrative efficiencies and consistency for industry.

#### **Changes from the proposed Rule**

The activity previously identified as D19, which involved the replacement of electric water heaters with solar water heaters with gas boosting, will not proceed. This is in line with the position on fuel switching outlined in the Safeguard Position Paper. As outlined in Section 2.5, this decision will free up natural gas supply for manufacturers.

The Government will adjust the baselines used for calculating energy savings from those initially proposed. The baselines are shown in Table 3:1, as are changes to the Activity Definition numbering as a result of activity D19 not proceeding.

**Table 3:1: Baselines for calculating water heater energy savings**

Activity Definition	Name	Baseline A (MWh)	Baseline B (MWh)
D17	Replace an existing electric water heater with an air source heat pump water heater	Small system: 30.78 Medium system: 50.76	n/a
D18	Replace an existing electric water heater with a solar (electric boosted) water heater	Small system: 38.47 Medium system: 63.45	n/a
D19 (was D20)	Replace an existing gas water heater with an air source heat pump water heater	Small system: 0.58 Medium system: 0.58	Small system: 48.68 Medium system: 69.05
D20 (was D21)	Replace an existing gas water heater with a solar (electric boosted) water heater	Small system: 0.58 Medium system: 0.58	Small system: 60.85 Medium system: 86.32
D21 (was D22)	Replace an existing gas water heater with a solar (gas boosted) water heater	Small system: 0.73 Medium system: 0.73	Small system: 60.85 Medium system: 86.32



### 3.2.2 New Activity Definitions F16 and F17 Commercial and Industrial Heat Pump Water Heaters (HEAB)

Refer to the ESS Rule: Activity Definitions F16 and F17

The NSW Government proposed to introduce Activity Definitions F16 and F17. These activities were to be closely aligned with the VEU's modelling procedure, product approval process and product registry for the HEER heat pump and solar water heater activities.

Energy performance of heat pump water heater products was allowed to be tested in climate zones 3 and 5 to represent energy savings more accurately for NSW.

The NSW Government also asked industry if there are any other barriers that should be considered.

Seven stakeholders responded to the proposal to align with the VEU's modelling procedure, product approval process and registry, including 2 manufacturers, 3 ACPs and one industry association. Six submissions agreed with the proposals, with 3 of those noting their agreement if it leads to reduced costs and more streamlined compliance.

One submission in response to the HEER hot water activities disagreed with the approach. They recommended the adoption of the Clean Energy Regulators (CER) Register for solar water heaters which supports the Small-scale Renewable Energy Scheme (SRES). Their submission for the HEAB hot water activities recommended a joint product requirement process if alignment with the SRES was not possible.

The proposal to allow testing in climate zones 3 and 5 received 6 responses, including 2 manufacturers, 3 ACPs and one industry association. Four submissions agreed with the proposal. One submission agreed but noted that the minimum energy savings requirement could limit the number of products available in climate zone 5. Another submission agreed but made some recommendations to be considered in the product requirements process.

Five responses were received to the question around barriers, including one manufacturer, 3 ACPs and one industry association. Three submissions noted the incentive was not high enough and recommended that the ESS ESC penalty rate be increased. One submission recommended that the product registration requirements be jointly managed with the VEU program to avoid discrepancies or issues between Schemes. Another submission noted there were no other barriers the NSW Government should consider.

#### **Government response**

The NSW Government has investigated both the VEU and SRES solar and heat pump water heater activities and has found the VEU calculation approach to be more appropriate for the HEER hot water activities under the Safeguard. The NSW Government has also investigated the CER Register for solar water heaters, and it does not publish specific information required to calculate energy savings more accurately in NSW. For example, the registry does not differentiate between gas and electricity savings. The NSW Government would need to obtain this information through a separate process and maintain a complementary registry to the CER for these activities. This would duplicate the CER product application process and add an administrative burden on the Safeguard.

The NSW Government has also developed commercial and industrial heat pump hot water activities in collaboration with the VEU program. The CER does not maintain a registry for heat pumps with a volumetric capacity of more than 425L, meaning the NSW Government in collaboration with the VEU program will need to set up this process for larger systems for the new commercial and industrial hot water activities.

The NSW Government will develop a joint modelling procedure, product approval process and product registry for the HEAB commercial and industrial heat pump water heaters activities. The NSW Government will closely align with or adopt the VEU process for the HEER hot water activities. It will harmonise both schemes and streamline the product requirement process across all the HEER and HEAB hot water activities. This will reduce the costs and compliance burden for participants who operate under both the Safeguard and VEU program.

The NSW Government will allow the energy performance of heat pump water heater products to be tested and evaluated in NSW climate zones 3 and 5 (HP3-AU and HP5-AU).

The Electricity Supply Act 1995 specifies penalty rates which are adjusted annually to comply with the Electricity Supply (General) Regulation 2014. The NSW Government cannot amend penalty rates as part of the ESS annual Rule change process.

The NSW Government are collaborating with the VEU program to adopt or closely align with the VEU modelling procedure, product approval process and product registry.

### **Changes from the proposed Rule**

Nil.

## Part Four: Metered Baseline Methods

### 4.1 NABERS Baseline

#### 4.1.1 Clarification of Forward Creation

Refer to the ESS Rule: Clause 8.8.2

The NSW Government proposed an update to the NABERS baseline method to clarify that the forward creation of Energy Savings Certificates can only be undertaken under Calculation Method 2.

Four submissions were received in response to this proposal, including 3 ACPs and one industry association.

All submissions supported this change.

#### **Government response**

The NSW Government will proceed with the proposed changes.

#### **Changes from the proposed Rule**

Nil.

#### 4.1.2 Inclusion of New Building Types

Refer to the ESS Rule: Clause 8.8.1, Table A20, Table A21

The NSW Government proposed an update to the NABERS baseline method to allow energy savings to be calculated for NABERS-rated buildings in the residential aged care and retirement living sectors.

Four submissions were received in response to this proposal, including 3 ACPs and one industry association.

All submissions supported this change.

#### **Government response**

The NSW Government will proceed with the proposed changes.

#### **Changes from the proposed Rule**

Nil.

## Part Five: Glossary

Acronym	Definition
ACOP	Annual Coefficient of Performance
ACP	Accredited Certificate Provider
AEER	Annualised Energy Efficiency Ratio
BASIX	Building Sustainability Index
CER	Clean Energy Regulator
EEI	Energy Efficiency Index
ESC	Energy Savings Certificates
ESC	Essential Services Commission
ESS	Energy Savings Scheme
GEMS	Greenhouse and Minimum Energy Standards
HEAB	High Efficiency Appliances for Businesses
HEER	Home Energy Efficiency Retrofit
HP3-AU	NSW Climate Zone 3
HP5-AU	NSW Climate Zone 5
HSPF	Heating Seasonal Performance Factor
IPART	Independent Pricing and Regulatory Tribunal
MEPS	Minimum Energy Performance Standards
NABERS	National Australian Built Environment Rating System
NSW	New South Wales
RET	Renewable Energy Target
SRES	Small Scale Renewable Energy Scheme
TCSPF	Total Cooling Seasonal Performance Factor
TRNSYS	Transient System Simulation Tool
VEU	Victorian Energy Upgrades program