IPART

Independent Pricing and Regulatory Tribunal
New South Wales

NABERS Baseline

Method Guide

Energy Savings Scheme

March 2020

The Independent Pricing and Regulatory Tribunal (IPART)

IPART provides independent regulatory decisions and advice to protect and promote the ongoing interests of the consumers, taxpayers and citizens of NSW. IPART's independence is underpinned by an Act of Parliament. Further information on IPART can be obtained from IPART's website: https://www.ipart.nsw.gov.au/Home.

Document Control

Version number	Change description	Date published
V1.0	Initial release – following gazettal of the ESS Rule Amendment No. 2	October 2014
V2.0	Application Form: Part B – Method Details and Nomination Form removed from the Method Guide to be separate documents.	December 2014
V2.1	Determining similar configuration for a previous NABERS rating	December 2015
V3.0	Updated to reflect amendments to the ESS Rule and to incorporate information previously found in the Evidence Manual	November 2016
V3.1	Updated to reflect amendments to the ESS Rule	May 2017
V3.2	Updated to reflect amendments to the ESS Rule	July 2018
V3.3	Updated to reflect amendments to the ESS Rule	March 2020

Contents

1 About this document

The NSW Energy Savings Scheme (**ESS**) seeks to reduce energy consumption in NSW by creating financial incentives for organisations to invest in energy saving projects.

The other objects of the ESS are to:

- assist households and businesses to reduce energy consumption and energy costs
- make the reduction of greenhouse gas emissions achievable at a lower cost, and
- reduce the cost of, and need for, additional energy generation, transmission and distribution infrastructure.[1]

Electricity retailers and other mandatory participants (**Scheme Participants**) are obliged to meet energy saving targets. Energy savings can be achieved by installing, improving or replacing energy saving equipment. Persons that become Accredited Certificate Providers (**ACPs**) can create energy savings certificates (**ESCs**) from these activities and then sell those ESCs to Scheme Participants. The Independent Pricing and Regulatory Tribunal of NSW (**IPART**) is both the Scheme Administrator and Scheme Regulator of the ESS.[2]

This document provides guidance about how the NABERS baseline sub-method (**NABERS method**) of the ESS operates, some of the key requirements that must be met when using the method, and how to calculate energy savings for a Recognised Energy Saving Activity (**RESA**) and create ESCs. This document should be used by:

- applicants seeking accreditation as a certificate provider, to assist them in completing their application,[3] and
- those persons who are already ACPs, to assist them in accurately calculating energy savings using this method.

1.1 Legislative requirements

This document is not legal advice. The legal requirements for ACPs participating in the ESS are set out in:

- Part 9 of the *Electricity Supply Act 1995* (**Act**)
- Part 6 of the *Electricity Supply (General) Regulation 2014* (**Regulation**), and
- the *Energy Savings Scheme Rule of 2009* (**ESS Rule**).

1 *Electricity Supply Act 1995*, section 98(2)
2 *Electricity Supply Act 1995*, sections 153(2) and 151(2)
3 A full explanation of the application process is provided in the Application Guide www.ess.nsw.gov.au/How_to_apply_for_accreditation/The_application_process. ACPs should ensure they read this document and the Application Guide in full before applying for accreditation.

ACPs are also required to meet any additional accreditation conditions as set out in their Accreditation Notice.

2 Method overview

The NABERS method provides a way to calculate and create ESCs that reflect the energy savings resulting from an improved NABERS rating for a building.[4] It incentivises energy savers to improve the energy performance of their buildings through the use of more energy efficient equipment and/or improved building management.

The NABERS method also allows an energy saver to choose how it may create ESCs, using either of the two approaches below:

1. Forward creation for up to three years, with voluntary top-up in years two and three, or
2. Annual creation, for up to seven years.

3 Requirements that must be met

We have provided information below about the requirements of the method. This is not an exhaustive list of requirements, and ACPs should ensure they are familiar with their obligations under the Act, Regulation, ESS Rule and any conditions of their accreditation.

3.1 Energy saver

An ACP can only calculate energy savings and create ESCs from an implementation if the ACP is the energy saver under the ESS Rule. The ACP must be the energy saver as at the implementation date. An energy saver can be either:

- **the original energy saver** – which, under the NABERS method, is
  - the person specified on the NABERS rating certificate, or
  - the building owner or manager of the building or buildings identified on the NABERS rating certificate if the person's name is not identified on the NABERS rating certificate as issued by the NABERS National Administrator, or
- **the nominated energy saver** – which is someone the original energy saver has nominated as the energy saver by completing a Nomination Form.[5]

An ACP that is the original energy saver must be accredited as an ACP **prior to** the implementation date in order to create ESCs from an implementation.

4 NABERS is the National Australian Built Environment Rating System. It is managed nationally by the NSW Office of Environment and Heritage, on behalf of Commonwealth, state and territory governments. For more information refer to: www.nabers.gov.au

5 Available at: www.ess.nsw.gov.au/Accredited_Certificate_Providers/Templates

An ACP that is a nominated energy saver must:

- be **accredited** as an ACP **prior to** the implementation date and before the nomination is made,[6]
- have a documented procedure for obtaining the nomination from the original energy saver, and
- be **nominated** by the original energy saver **on or before** the implementation date. The nomination is taken to occur on the date that the nomination form is signed by the original energy saver.

3.2 Implementation and implementation date

The ESS Rule defines implementations and implementation dates (explained below). These concepts are used to determine the number of ESCs, and from when they can be created.

3.2.1 Implementation

An implementation is the delivery of a RESA[7] at a site. Under the NABERS method, this is when an improved NABERS rating is achieved.

An implementation under the NABERS method is enabled by achieving a NABERS rating for a building through any of the following NABERS tools:

- NABERS for offices (base building, tenancy, or whole building)
- NABERS for hotels
- NABERS for shopping centres
- NABERS for data centres (IT equipment, infrastructure, or whole facility)
- NABERS for hospitals, or
- NABERS for apartments.

3.2.2 Implementation date

Under the NABERS method, the implementation date is the end date of the first NABERS rating period for which energy savings will be calculated. The end date appears on the NABERS Energy Rating Report for a NABERS building and establishes the date from which the ACP can create ESCs in relation to that building (refer Box 3.1 below).

6 The ESS website provides information on applying to become an ACP at: www.ess.nsw.gov.au/How_to_apply_for_accreditation.

7 A RESA must meet all of the criteria set out in clause 5.3, 5.3A, 5.3B and 5.4 of the ESS Rule.

Box 3.1 Example: determining the implementation date

An ACP wishes to calculate energy savings for a building that has achieved an improved NABERS rating.

The NABERS Energy Rating Report for the building notes that the first NABERS rating period is from 1/1/2020 to 31/12/2020. Therefore, the implementation date is 31/12/2020.

3.3 Eligible buildings

A building is eligible for the NABERS method if the building:

- is located in NSW, and
- has a NABERS rating, issued by the NABERS National Administrator.

3.4 Calculation-specific eligibility requirements

The NABERS method uses a Benchmark NABERS Rating to assist in calculating the benchmark (baseline) energy consumption for a NABERS building.

The NABERS method provides two calculation methods to calculate the Benchmark NABERS Rating:

- **Calculation Method 1**: the Benchmark NABERS Rating is listed in Table A20 of Schedule A of the ESS Rule.
- **Calculation Method 2**: the Benchmark NABERS Rating is calculated using a Historical Baseline NABERS Rating.

Each of these calculation methods has specific eligibility requirements that must be met as outlined below.

3.4.1 Calculation Method 1 – Benchmark NABERS Rating index

To use this calculation method, the NABERS rating must:

1. be the first NABERS rating for the building
2. exceed the relevant Benchmark NABERS Rating listed in Table A20 in Schedule A of the ESS Rule by at least 0.5 stars, and
3. must not be obtained for the purposes of complying with a mandatory legal requirement imposed through a statutory or regulatory instrument of any Australian jurisdiction.

3.4.2 Calculation Method 2 – Historical Baseline NABERS Rating

Calculation Method 2 uses a Historical Baseline NABERS Rating to calculate the Benchmark NABERS Rating. The Historical Baseline NABERS Rating is a previous NABERS rating for the same NABERS building and similar configuration (see section 3.4.3 below).

To use this calculation method:

1. the NABERS rating must exceed the Historical Baseline NABERS Rating by at least 0.5 stars, and
2. the Historical Baseline NABERS Rating must meet the 'similar configuration' criteria that has been determined by the Scheme Administrator, and is listed in section 3.4.3 of this guide,[8] and
   a) if using forward creation at step 5 of Method 4 of the NABERS method, be a fixed Historical Baseline Rating which was calculated with an end date of no more than 15 months before the end date of the NABERS rating, or
   b) if using top-up or annual creating at step 4 of Method 4 of the NABERS method, be a fixed Historical Baseline Rating which was calculated no more than seven years before the end date of the Current Rating Year.

Calculation Method 2 – resetting the baseline

The use of a fixed Historical Baseline Rating is limited and must be reset to a new fixed Historical Baseline when calculating Additional Energy Savings.[9]

Annual Creation (no forward creation)

If Calculation Method 2 is to be used for Additional Energy Savings and the fixed Historical Baseline NABERS Rating was calculated more than 7 years before the end date of the Current Rating Year, it must be reset using a previous NABERS rating that is at least 7 years later than the end date of the Rating Period for the previous fixed Historical Baseline NABERS Rating.[10]

After Forward creation

If the fixed Historical Baseline NABERS Rating is used for the purposes of Calculation Method 2 at steps 4 and 5 of Method 4, it must be reset no later than 7 years after the end date of the fixed Historical Baseline NABERS Rating.[11]

When calculating energy savings using Calculation Method 2 at step 5 of Method 4, a NABERS rating of the same value can only be used once to set a fixed Historical Baseline NABERS Rating for a NABERS building. A lower rating cannot be used as a new fixed Historical Baseline NABERS Rating in the future.[12]

---

8 *ESS Rule*, cl 8.8.4(c)
9 Additional Energy Savings means, in respect of clause 8, energy savings for which no ESCs have been created, but which arise from an implementation in relation to which ESCs have been created.
10 *ESS Rule*, cl 8.8.4(b)
11 *ESS Rule*, cl 8.8.11(b)
12 *ESS Rule*, cl 8.8.10(c)

Box 3.2 Example: re-setting a baseline NABERS rating

Annual creation only

An ACP previously calculated energy savings annually from a NABERS rating that ended 31/12/20. The end date of the fixed Historical Baseline NABERS Rating was 31/12/13.

The ACP now wishes to calculate Additional Energy Savings using this method for a NABERS rating that ends on 31/12/22. If the end date of the fixed Historical Baseline NABERS Rating was calculated more than seven years before the end date of the Current Rating Year, it must be reset using a previous NABERS rating that is at least 7 years later than the end date of the Rating Period for the previous fixed Historical Baseline NABERS Rating, to calculate energy savings. The new fixed Historical Baseline NABERS Rating may be reset using the NABERS rating that ended on either 31/12/20 or 31/12/21, provided that it meets the eligibility criteria.

After Forward creation

An ACP forward created energy savings from a NABERS rating that ended 31/12/20. The end date of the fixed Historical Baseline NABERS Rating was 31/12/19. The ACP can use the fixed baseline for the purposes of Calculation Method 2 at steps 4 and 5 of Method 4, but it must be reset no later than 7 years after the end date of the fixed Historical Baseline NABERS Rating. The latest date to reset it is 31/12/26.

Further, when the ACP wishes to reset a fixed Historical Baseline NABERS Rating it can only use a NABERS rating of the same value once to set a fixed Historical Baseline NABERS Rating for a NABERS building and a lower rating cannot be used as a new fixed Historical Baseline NABERS Rating in the future. Therefore, if an ACP used a 2 star NABERS rating to set the previous fixed Historical Baseline NABERS Rating, it can only use a 2.5 star or higher star rating to reset the future Historical Baseline NABERS Rating.

3.4.3 Similar configuration

For a NABERS building, the Historical Baseline NABERS Rating has a similar configuration to the current NABERS rating if the following criteria are met:

1. the difference in each rated input between each rating is 5% or less, and
2. the sub-metering arrangements and on-site generation systems are the same, where present.

For criterion 2, a NABERS building's sub-metering arrangements and on-site generation systems are considered the same if the following criteria are met:

- sub-metering arrangements (if any) covered the same space as determined by the NABERS assessor for each rating, using the evidence relevant to the type of NABERS rating specified in the 'NABERS Rules for collecting and using data', and
- nameplate capacity for each type of generation (if any) system was the same.

Options available when a previous rating is not a similar configuration

The ACP can ask the Scheme Administrator to accept the use of the Historical Baseline NABERS Rating if the similar configuration criteria for the relevant NABERS rating cannot be met and Calculation Method 1 cannot be used. In this instance, the ACP must be able to demonstrate that the difference in the maximum allowable electricity consumption between the ratings is 5% or less.

Alternatively, an ACP can refix the Historical Baseline NABERS Rating using a previous NABERS rating, but only if it:

- meets the similar configuration criteria, and
- is greater than seven years than the current fixed Historical Baseline NABERS Rating.

3.5 Minimum requirements of conduct

The Scheme Administrator has established minimum requirements for the conduct of ACPs and their representatives (for example, employees or sub-contractors). This includes ACP responsibilities for:

- training representatives
- maintaining a register of representatives
- ensuring there is a formal, documented, signed and enforceable (legally binding) contract or agreement in place for each representative, and
- providing appropriate customer service.

ACPs are accountable for all ESS activities conducted by employees, third parties and other representatives. This includes all aspects of an activity for which they create ESCs, from the initial engagement with customers, through to the final quality assurance of documents. ACPs will be held responsible for all actions, omissions and information provided by representatives acting on their behalf under the ESS – regardless of any contract or agreement with other parties. For more information, refer to *ESS Notice 01/2013 (V3.0) Minimum requirements of conduct.*[13]

4 Calculating energy savings

Under the ESS Rule, energy savings may comprise both electricity savings and gas savings. Electricity savings and gas savings must both be calculated under the NABERS method. Energy savings under the NABERS method are calculated using Method 4 under clause 8.8 of the Rule.

13 Refer: www.ess.nsw.gov.au/Home/Document-Search/Notices/Notice-012013-Minimum-requirements-of-conduct/Notice-012013-Requirements-for-all-methods-Minimum-requirements-of-conduct-V3.0

Once an ACP has a NABERS rating, there are four steps to calculate energy savings:

1. calculate the measured energy consumption, which consists of the measured electricity consumption and measured gas consumption
2. calculate the Benchmark NABERS Rating
3. calculate the benchmark energy consumption, which consists of the benchmark electricity consumption and benchmark gas consumption, and
4. calculate energy savings by either:
   a) forward creation only, or
   b) forward creation with top-up in years two and/or three, or
   c) annual creation.

An ACP does not have to top-up energy savings after it has forward created, if it chooses not to do so. It may also choose to annually create ESCs after the forward creation period has ended.

4.1 Calculate measured energy consumption

Measured energy consumption is calculated using step 1 of Method 4 of the ESS Rule and is measured in megawatt hours (**MWh**). It may consist of measured electricity consumption and measured gas consumption.

4.1.1 Measured electricity consumption

Measured electricity consumption is calculated using the formula below:

Measured electricity consumption (MWh) = NABERS electricity (MWh) + on-site unaccounted electricity (MWh)

NABERS electricity is the electricity purchased or imported from the electricity network and accounted for in the NABERS rating, including electricity purchased as GreenPower. It is reported as 'Electricity' under the energy consumption details found on the NABERS Energy Rating Report. It is usually reported in kWh, so it must be converted to MWh to complete the calculation.

On-site unaccounted electricity is the electricity generated on-site from a source that has not been accounted for in the NABERS rating. This may include solar PV or biogas generation where the fuel input has not been included in the rated energy consumption reported on the NABERS Energy Rating Report, but excludes gas generators where the imported gas has been accounted for in the NABERS rating. All energy consumption must be converted to MWh.

4.1.2 Measured gas consumption

Measured gas consumption is calculated using the formula below:

Measured gas consumption (MWh) = NABERS gas (MWh)

NABERS gas is the gas which is accounted for in the NABERS rating. It is reported as 'Gas' under the energy consumption details found on the NABERS Energy Rating Report. This is usually reported in Megajoules (**MJ**), so it must be converted to MWh to complete the calculation of energy savings (using standard conversion factors).

4.2 Calculate Benchmark NABERS Rating

Calculate the Benchmark NABERS Rating using one of the two calculation methods provided at step 2 in Method 4 in the ESS Rule.

4.2.1 Calculation Method 1

The Benchmark NABERS Rating is the value in Table A20 in Schedule A of the ESS Rule that corresponds to:

a) the NABERS rating tool used to determine the rating

b) the Current Rating Year, which is the year for which ESCs will be created and is the year that the rating period ended for the NABERS rating, and

c) the building category for the rating.

4.2.2 Calculation Method 2

The Benchmark NABERS Rating is calculated using the following inputs:

- Historical Baseline NABERS Rating
- Baseline Rating Year[14]
- Current Rating Year, and
- Annual Rating Adjustment provided in Table A21 in Schedule A of the ESS Rule.[15] The Benchmark NABERS Rating is calculated as follows:

Benchmark NABERS Rating = Historical Baseline NABERS Rating + Annual Rating Adjustment × (Current Rating Year – Baseline Rating Year)

Box 4.1 provides an example calculation when using Calculation Method 2 to calculate the Benchmark NABERS Rating.

14 The year that corresponds to the end date of the Historical Baseline NABERS Rating.

15 For the relevant building category, NABERS rating tool and age of Historical Baseline NABERS Rating

Box 4.1 Example: calculate Benchmark NABERS Rating using Calculation Method 2

An ACP has a building with a 4 star rating for NABERS Offices – base building.

The current NABERS rating ends on 31/12/20.

It has a 2 star rating for NABERS Offices – base building that ended on 31/12/14, which the ACP wishes to use as a Historical Baseline NABERS Rating to calculate on an annual basis.

The Baseline Rating Year end date is less than seven years from the end date of the Current Rating Year and therefore it is eligible for use in this method, assuming it is a similar configuration.

The inputs for the equation above are:

- Historical Baseline NABERS Rating = 2
- Annual Rating Adjustment = 0.09 (Offices NABERS Rating tool, Adjustment for Historical Baseline NABERS Rating that is 2 – 7 years old).
- Baseline Rating Year = 2014
- Current Rating Year = 2020

Using the equation:

Benchmark NABERS Rating = Historical Baseline NABERS Rating + Annual Rating Adjustment × (Current Rating Year – Baseline Rating Year)

- Benchmark NABERS Rating = 2 + 0.09 x (2020 - 2014)
- Benchmark NABERS Rating = 2 + 0.09 x 6
- Benchmark NABERS Rating = 2 + 0.54

The Benchmark NABERS Rating is 2.54.

4.3 Calculate benchmark electricity consumption and benchmark gas consumption

The benchmark electricity consumption and benchmark gas consumption are calculated by using the NABERS reverse calculator[16] for the relevant NABERS building, setting the target star rating to the Benchmark NABERS Rating, and giving all other input parameters the same value as for the actual NABERS rating over that rating period, including:

- rating type
- building information, and
- percentage breakdown of energy consumption (on an energy use basis in MWh).

Benchmark electricity consumption is the electricity consumption that would be required for that same NABERS building to achieve the Benchmark NABERS Rating over the rating period, assuming the same breakdown of energy consumption. It is the electricity component of maximum allowable energy consumption, converted to MWh.

16 These can be downloaded from the NABERS website. www.nabers.gov.au. The NABERS Hospital reverse calculator must be requested via email: nabers@environment.nsw.gov.au

Benchmark gas consumption is the gas consumption that would be required for that same NABERS building to achieve the Benchmark NABERS Rating over the rating period, assuming the same breakdown of energy consumption. It is the gas component of maximum allowable energy consumption, converted to MWh.

NABERS reverse calculators are updated regularly so ACPs will need to check and download the most recent version of each calculator from the NABERS website.

Some of the NABERS reverse calculators may only accept star ratings that are in half or whole star increments. If the Benchmark NABERS Rating is not accepted by a calculator, then round it down to the nearest half star or whole star.

4.3.1 Rating type

The rating type is listed on the NABERS rating certificate or NABERS Energy Rating Report, and is one of the following:

- NABERS for offices (either base building, tenancy, or whole building)
- NABERS for hotels
- NABERS for shopping centres
- NABERS for data centres (either IT equipment, infrastructure, or whole facility)
- NABERS for hospitals, or
- NABERS for apartments.

4.3.2 Building information

The building information is listed on the NABERS Energy Rating Report and is:

- the rated inputs, and
- the postcode.

4.3.3 Percentage breakdown of energy consumption

All fuel types covered by the NABERS rating are listed on the NABERS Energy Rating Report and each fuel type is expressed in a different unit of measurement. The percentage breakdown for each fuel type is expressed in MWh. Therefore, each fuel type must be converted to MWh using the following fuel conversion factors:

- to convert kWh of electricity to MWh: MWh = electricity (kWh)/1,000
- to convert MJ of gas to MWh: MWh = gas (MJ)/3,600
- to convert L of diesel to MWh: MWh = [diesel (L) x 38.6]/3,600
- to convert kg of coal to MWh: MWh = [coal (kg)/1000] x [energy content factor (GJ/t)] x [1/3.6].

The relevant energy content factor for coal should be sourced from the current version of the National Greenhouse Accounts (**NGA**) Factors.[17]

Once all fuel types have been converted to MWh:

- add up the consumption from all fuel types in MWh, and
- calculate electricity consumption, gas consumption, coal and oil/diesel consumption as a percentage of building energy consumption..

4.4 Calculate energy savings

An ACP may calculate energy savings for each eligible NABERS building by either:

- forward creation only, or
- forward creation with top-up in years two and three, or
- annual creation.

4.4.1 Forward creation

Energy savings may be forward created in accordance with step 5 of Method 4.

The Maximum Time Period for Forward Creation of ESCs in respect of energy savings for an implementation calculated using Calculation Method 2 is 3 years.[18] However, an ACP can choose to forward create for two years and then continue to annually create ESCs from year three, using step 4 of Method 4.

The forward created energy savings are calculated for each electricity and gas separately:

1. Any energy savings for electricity are calculated using the following equation:

$$\textit{Electricity savings (MWh)} = \sum_{NRYi} (\textit{Benchmark electricity consumption} - \textit{Measured electricity consumption}_{NRYi}) \times \textit{Regional Network Factor}$$

2. Any energy savings for gas[19] are calculated using the following equation:

$$\textit{Gas Savings (MWh)} = \sum_{NRYi} (\textit{Benchmark Gas Consumption} - \textit{Measured Gas Consumption}_{NRYi})$$

17 Dept. of the Environment (Aust. Govt.), *National Greenhouse Accounts Factors*, "Table 1: Fuel combustion emission factors – solid fuels and certain coal based products" www.environment.gov.au/climate-change/climate-science-data/greenhouse-gas-measurement/publications/national-greenhouse-accounts-factors-august-2019

18 As set out in clause 8.8.10(a)

19 Prior to 15 April 2016, ACPs accredited under the NABERS method were accredited to create ESCs from activities that saved electricity only. ACPs cannot create ESCs for gas savings unless they are accredited to do so.

The inputs for each equation are:

- *NRYi* which is the NABERS Rating Year
- the summation is over each NABERS Rating Year *i* over the *Maximum Time Period for Forward Creation*
- *Benchmark Electricity Consumption* & *Benchmark Gas Consumption* is calculated at Calculation Method 2 at step 2 of Method 4.
- *Measured Electricity Consumption*$_{NRYi}$ & *Measured Gas Consumption*$_{NRYi}$ is the same for all NABERS Rating Years and is calculated at Calculation Method 2 at step 1 of Method 4 for NABERS Rating Year 1 when using the fixed Historical Baseline NABERS Rating, and
- *Regional Network Factor* is the value from Table A24 of Schedule A corresponding to the postcode of the Address of the Site or Sites where the Implementation(s) took place.

4.4.2 Top-up

An ACP can choose to top-up energy savings in years two and three of the forward creation period, depending upon the time period over which forward creation occurred.

The process for forward creating energy savings is the same as that described in section 4.4.1.

Top-up energy savings are calculated for electricity and gas separately:

1. Any energy savings for electricity are calculated using the following equation:

$$\textit{Electricity savings (MWh)} = (\textit{Benchmark electricity consumption} - \textit{Measured electricity consumption}) \times \textit{Regional Network Factor} - \textit{Counted Energy Savings}_{NRYi} + \textit{Electricity Savings}_{NRYi-1}$$

2. Any energy savings for gas are calculated using the following equation:

$$\textit{Gas Savings (MWh)} = \textit{Benchmark Gas Consumption} - \textit{Measured Gas Consumption} - \textit{Counted Energy Savings}_{NRYi} + \textit{Gas Savings}_{NRYi-1}$$

The inputs for each equation are:

- *NRYi* is the NABERS Rating Year
- *NRYi-1* is the NABERS Rating Year immediately preceding *NRYi*
- *Regional Network Factor* is the value from Table A24 of Schedule A corresponding to the postcode of the Address of the Site or Sites where the Implementation(s) took place
- *Counted Energy Savings*$_{NRYi}$ is:
  - total Electricity Savings for which ESCs have previously been created for the Implementation for the Rating Year *i* if calculating Electricity Savings; or
  - total Gas Savings for which ESCs have previously been created for the Implementation for the Rating Year *i* if calculating Gas Savings;

- *Electricity Savings*$_{NRYi-1}$ or *Gas Savings*$_{NRY-1}$ should only be included in each formula if:
  - calculating from year 3 onwards of using the fixed Historical Baseline NABERS Rating, and
  - the term is a negative number.

4.4.3 Annual creation

An ACP may calculate energy savings annually in accordance with step 4 of Method 4.

Annual energy savings are calculated for electricity and gas separately:

1. Any energy savings for electricity are calculated using the following equation:

Electricity savings (MWh) = (Benchmark electricity consumption – Measured electricity consumption) × Regional Network Factor[20] *– Counted Energy Savings*$_{NRYi}$ *+ Electricity Savings*$_{NRYi-1}$

2. Any energy savings for gas are calculated using the following equation:

Gas Savings (MWh) = Benchmark Gas Consumption – Measured Gas Consumption – Counted Energy Savings$_{NRYi}$ *+ Gas Savings*$_{NRYi-1}$

The inputs for each equation are:

- *NRYi* is the NABERS Rating Year
- *NRYi-1* is the NABERS Rating Year immediately preceding *NRYi*
- *Regional Network Factor* is the value from Table A24 of Schedule A corresponding to the postcode of the Address of the Site or Sites where the Implementation(s) took place
- *Electricity Savings*$_{NRYi-1}$ or *Gas Savings*$_{NRY-1}$ should only be included in each formula if:
  - calculating from year 3 onwards of using the fixed Historical Baseline NABERS Rating, and
  - the term is a negative number.

Electricity Savings$_{NRYi-1}$ and *Gas Savings*$_{NRY-1}$ must be calculated using the NABERS rating for the preceding year. An energy saver will need to obtain a NABERS rating every year (that is, there must be a continuous NABERS rating). This ensures that any negative energy savings are accounted for in the ESC claim.

Counted Energy Savings$_{NRYi}$ is only included if top-up energy savings are being calculated using step 4 of Method 4 (see section 4.4.2 of this guide).[21]

20 The Regional Network Factor is the value from Table A24 in Schedule A of the ESS Rule that corresponds to the postcode of the street address of the NABERS building.

21 *ESS Rule*, cl 8.8.12

5 Calculating and creating ESCs

Equation 1 of the ESS Rule is used to calculate the number of ESCs that may be created from the energy savings calculated in relation to an implementation.

Equation 1

$$Number\ of\ Certificates = \Sigma_{Implementations}\ (Electricity\ Savings \times Electricity\ Certificate\ Conversion\ Factor + Gas\ Savings \times Gas\ Certificate\ Conversion\ Factor)$$

5.1 Approval of calculations

Energy savings are taken to occur on the date that the Scheme Administrator determines that the relevant NABERS rating was completed.[22] To satisfy this requirement, the ACP must provide information to the Scheme Administrator that includes:

- ESC calculations for each NABERS building, and
- the required records (refer to section 6 below) for each NABERS building.

The Scheme Administrator will review this information, in consultation with the NABERS National Administrator, and if satisfactory, grant approval for the ACP to create and apply to register ESCs for that NABERS rating type at that building. Once the ACP has received an approval letter to apply to register ESCs, the ESS registry is updated and the ACP can then lodge the implementation data sheet (refer to section 5.2 below).

5.2 Applying to register ESCs

Certain information must be submitted to the Scheme Administrator by an ACP for the purpose of applying to register ESCs.[23] ACPs are to provide the required information by completing an *Implementation Data Sheet*[24] and submitting it through the ESS Portal.[25] The *Implementation Data Sheet* will include a calculation of the number of ESCs to be created in accordance with Equation 1 in the ESS Rule. This calculation involves:

- multiplying the electricity savings (from the formula in section 4.4) by the electricity certificate conversion factor (1.06)[26]
- multiplying the gas savings (from the formula in section 4.4) by the gas certificate conversion factor (0.39),[27] and
- adding the two figures together.

22 *ESS Rule*, cl 8.8.7
23 *ESS Rule*, cl 6.8
24 Available at: www.ess.nsw.gov.au/Home/About-ESS/ESS-Registry-and-ESS-Portal/Registering-ESCs
25 Information and access to the portal can be found here: www.ess.nsw.gov.au/ESS_Portal
26 *Act*, s 130(1)(a). This may be amended by regulations: *Act*, s 130(3)
27 *Act*, s 130(1)(a). This may be amended by regulations: *Act*, s 130(3).

The result is the total number of ESCs that ACPs can apply to register from the implementation or implementations. If the result is not a whole number, it is rounded **down** to the nearest whole number.

There are no restrictions on how many implementations can be bundled together in the same *Implementation Data Sheet*. However:

- ACPs must apply to register all ESCs included in an *Implementation Data Sheet* in a single application
- ACPs cannot split energy savings calculated from a single implementation across two or more *Implementation Data Sheets*, and
- each *Implementation Data Sheet* must only include the calculation of energy savings that are taken to have occurred in the same calendar year (commonly referred to as 'vintage').

When determining how many implementations to bundle in the same *Implementation Data Sheet*, ACPs should consider:

- the ESC creation limit specified in their Accreditation Notice, as they must be able to register all the ESCs in the bundle at the same time, and
- the cost of registering the ESCs.[28]

More information on applying to register the creation of ESCs can be found on the ESS website.[29]

6 Minimum required records

ACPs are required to keep records in respect of a RESA, including records of:

- the location in which the RESA occurred
- the energy savings arising from that RESA
- the methodology, data and assumptions used to calculate those energy savings, and
- any other records specified by the Scheme Administrator.[30]

ACPs must retain records for at least six years, in a form and manner approved by the Scheme Administrator. Each ACP's Accreditation Notice may include a condition requiring that the ACP's record keeping arrangements are consistent with the *Record Keeping Guide*.[31]

28 The ESC registration fee must be paid in a single payment for all ESCs registered in a single bundle. Payment for a single bundle cannot be split into two payments. Refer: www.ess.nsw.gov.au/Home/About-ESS/ESS-Registry-and-ESS-Portal/Registering-ESCs

29 Available at: www.ess.nsw.gov.au/Home/About-ESS/ESS-Registry-and-ESS-Portal/Registering-ESCs

30 *Regulation*, cl 46(1) and (2)

31 Available at: www.ess.nsw.gov.au/Accredited_Certificate_Providers/Record_keeping_arrangements

Table 6.1 below describes the minimum documents ACPs are required to keep as a record of the energy savings from their project. ACPs must collect the required documents for each implementation of their activity.

Table 6.1 Minimum required records for each implementation

Requirement	Documents acceptable for evidencing requirement	Description
Implementation address and implementation date	NABERS rating certificate **and** NABERS Energy Rating Report **or** NABERS rating data summary or NABERS for hospitals – rating spreadsheet [a]	Both documents must clearly show the address of the building. The NABERS Energy Rating Report or NABERS rating data summary must specify the end date of the rating period.
Energy saver	NABERS rating certificate	The document must clearly display the NABERS rating holder. [b]
Nomination	Nomination form (not required if the ACP is the NABERS rating holder)	The nomination form must: ▼ be the relevant template available from the ESS website ▼ be signed by the NABERS rating holder, and ▼ be completed on or before the implementation date.
Energy savings calculation	The spreadsheet or calculation summary used to calculate energy savings from each implementation.	The document must clearly show the calculation of energy savings, including all relevant inputs and outputs.
NABERS Electricity	NABERS Energy Rating Report **or** NABERS rating data summary or NABERS for hospitals – rating spreadsheet	The document must show the certified electricity consumption listed under energy consumption details.
NABERS Gas	NABERS Energy Rating Report **or** NABERS rating data summary or NABERS for hospitals – rating spreadsheet	The document must show the certified gas consumption listed under energy consumption details.

Requirement	Documents acceptable for evidencing requirement	Description
On-site unaccounted electricity	Utility, building owner or energy services company report	A report for the rating period showing: ▼ the source of the on-site electricity generation ▼ the amount of electricity generated that was consumed on-site for the rated building for the NABERS rating period, and ▼ meter identifier, and whether it is a utility meter or sub-meter.
NABERS Star Rating & Rating Type	NABERS rating certificate **and** NABERS Energy Rating Report **or** NABERS rating data summary or NABERS for hospitals – rating spreadsheet	The documents must clearly show the star rating of the building, excluding GreenPower.
Building information	NABERS Energy Rating Report **or**	The document must show the inputs required to calculate the maximum allowable electricity use from the NABERS reverse calculator.
	NABERS rating data summary (must be provided for method 2). or NABERS for hospitals – rating spreadsheet	The NABERS rating data summary must describe any on-site generation or sub-meters that exclude energy consumption.
Similar Configuration (must be provided if using Calculation Method 2)	The following documents (as relevant to the site): ▼ NABERS Energy Rating Report ▼ NABERS rating data summary ▼ Single line diagram (sub-metering) ▼ Installation or commissioning documentation (on-site generation) ▼ NABERS for hospitals – rating spreadsheet	Refer to ‘similar configuration’ in section 3.4.3.
Maximum allowable electricity use	NABERS reverse calculator	Must show all inputs required from other sources of documentation to calculate the maximum allowable electricity use for each building for which ESCs are created.
Maximum allowable gas consumption	NABERS reverse calculator	Must show all inputs required from other sources of documentation to calculate the maximum allowable gas use for each building for which ESCs are created.

Requirement	Documents acceptable for evidencing requirement	Description
Built date prior to 1 November 2006 (required where the Benchmark NABERS Rating is calculated using Calculation Method 1)	One of the following documents: ▼ Compliance certificate ▼ Final occupation certificate ▼ Tenancy agreement ▼ Survey plan drawn to Building Owners and Management Association (BOMA) or Property Council of Australia (PCA) standard ▼ As-built plans ▼ Photo of building commemoration plaque ▼ Utility bill (electricity, gas or water) ▼ Previous NABERS rating certificate ▼ Property valuation	The document must show that the built date is prior to 1 November 2006.

a ACPs will need to contact the NABERS team about the NABERS Hospital – rating spreadsheet

b The energy saver can be a person or building owner or manager names on the NABERs rating certificate (refer section 3.1 of this guide)

7 Glossary

Words which are defined in the ESS Rule and used in this Method Guide have the same meaning in this Method Guide as in the ESS Rule, unless the context requires otherwise.

Term	Definition
Annual rating adjustment	Used to calculate the Benchmark NABERS Rating by subtracting the baseline rating year from the Current Rating Year and multiplying the difference by the adjustment factor, where the age of the baseline rating is more than one year.
Baseline rating year	The year that corresponds to the end date of the NABERS rating that is used as the baseline to determine the Historical Benchmark NABERS Rating using Calculation Method 2.
Benchmark NABERS Rating	The star rating used to calculate the maximum allowable electricity consumption and maximum allowable gas consumption for the building.
Current Rating Year	The year that corresponds to the end date of the NABERS rating period that is used to calculate energy savings.
Historical Baseline NABERS Rating	A previous NABERS rating for the same NABERS building and similar configuration (metering arrangements and on-site energy generation).
NABERS Baseline Method	A calculation method from the ESS Rule that uses a NABERS rating to calculate energy savings for a NABERS building.
NABERS electricity	The electricity accounted for in the NABERS rating for a NABERS rating period, reported in the NABERS Energy Rating Report.
NABERS gas	The gas accounted for in the NABERS rating for a NABERS rating period, reported in the NABERS Energy Rating Report.
NABERS rating data summary	Export from member's (eg, NABERS assessor) website of data for certified NABERS rating, or NABERS assessor excel spreadsheet used for certified rating.