IPART

Independent Pricing and Regulatory Tribunal
New South Wales

July 2020

NSW ENERGY SAVINGS SCHEME

Compliance and Operation in

2019

ANNUAL REPORT

to the Minister

Disclaimer

This report is published for the purpose of IPART reporting to the Minister under clause 76 of Schedule 4A to the Electricity Supply Act 1995. Use of the information in this report for any other purpose is at the user's own risk, and is not endorsed by IPART.

ISBN 978-1-76049-414-8

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.

Tribunal Members

The Tribunal members for this report are:

Dr Paul Paterson, Chair

Ms Deborah Cope

Ms Sandra Gamble

Enquiries regarding this document should be directed to a staff member:

Philippa Fague (02) 9290 8452

Contents

1 Executive summary

This report is the Independent Pricing and Regulatory Tribunal of NSW's (**IPART's**) 11th annual report to the Minister on the NSW Energy Savings Scheme (**ESS**) (Box 1.1), as required by clause 76 of Schedule 4A to the *Electricity Supply Act 1995* (**Act**).[1] It summarises the scheme's performance during the 2019 calendar year (Figure 1.1), including the energy (electricity and gas) savings achieved and compliance with ESS requirements by Scheme Participants and Accredited Certificate Providers. It also outlines our actions and observations as Scheme Regulator and Scheme Administrator during 2019, and provides an overview of potential future risks and opportunities.

The ESS continues to achieve the objectives set out in the Act

In 2019 the ESS continued to achieve the objectives set out in the Act[2] by:

- **Creating financial incentives to reduce energy consumption:** The ESS target, which establishes the demand for Energy Savings Certificates (**certificates**), was 8.5% of all electricity purchased for supply to end use customers in NSW in 2019. This target is equivalent to 4,649,936 notional megawatt hours (**MWh**) or 4,649,936 certificates.[3] The resulting demand for certificates provided a financial incentive for Accredited Certificate Providers to create 4,870,731 certificates by implementing energy savings activities. These 2019 vintage certificates represented 4,509,555 MWh of electricity savings and 232,314 MWh of gas savings.[4]
- **Helping households and businesses reduce energy consumption and costs:** Households and businesses reduced electricity consumption by 2,862,443 MWh and gas consumption by 144,636 MWh in 2019 through energy savings activities implemented under the scheme. The estimated cost savings to NSW consumers was $235 million.[5]
- **Reducing greenhouse gas emissions:** 2,609,695 tonnes[6] of greenhouse gas emissions were avoided as a direct result of the energy savings realised through the ESS in 2019. This result complements carbon reduction schemes by making targeted greenhouse gas reductions achievable at lower cost.
- **Reducing demand:** Energy savings activities implemented under the scheme in 2019 reduced electricity demand which contributed to reducing the cost of and need for additional energy generation, transmission and distribution infrastructure.

1 A complete list of legislative reporting requirements is included in the Appendix to this report.
2 The objectives of the ESS are specified in clause 1 of Schedule 4A to the Act.
3 Number of certificates required to meet ESS target after deducting allowed exemptions.
4 To calculate certificates, the electricity and gas savings achieved (in MWh) are multiplied by the relevant certificate conversion factor (1.06 for electricity and 0.39 for gas) per clause 33 of Schedule 4A to the Act.
5 Net savings based on estimated bill savings from reduced energy consumption less charges passed through by electricity retailers ($88-112 million).
6 Based on full fuel cycle factors in Department of the Environment and Energy, *National Greenhouse Accounts Factors, August 2019*.

Figure 1.1 Snapshot of ESS performance during 2019

3

million MWh of energy saved

We estimate that 3 million MWh of energy savings were made during 2019 due to ESS activities

90

Scheme Participants

Compliance was high with 92% of all Scheme Participants complying with obligations

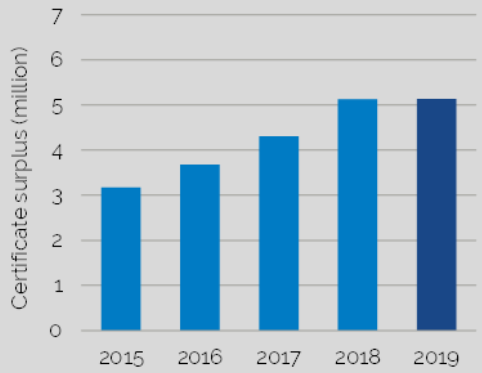
91

Accredited Certificate Providers

Compliance was high across most Accredited Certificate Providers

Certificate supply equalled demand

Unlike previous years, the number of certificates created by Accredited Certificate Providers was almost equal to the number of certificates surrendered by Scheme Participants. The certificate surplus remained at 5.1 million.



The cost of the ESS to electricity customers in NSW equated to approximately $88-112 million

The certificate market remained stable with the certificate price varying between $19-24 during 2019, consistent with previous years

We took two enforcement actions and resolved several instances of non-compliance by Accredited Certificate Providers

We saw a significant increase in energy savings activities in the small business and residential sectors

In response to the COVID-19 pandemic, we allowed concessions for some Scheme Participants to delay the surrender of certificates and penalty payments

Box 1.1 About the ESS

The state-based Energy Savings Scheme (ESS) aims to reduce energy consumption (electricity and gas) in NSW by providing financial incentives to implement activities that save energy without reducing production or service levels. The ESS is established under Part 1 of Schedule 4A to the *Electricity Supply Act 1995* (Act).

Schedule 5 of the Act sets out ESS energy savings targets for each calendar year to 2025. All electricity retailers operating in NSW and other specified parties – known as Scheme Participants – are required to meet these targets by surrendering Energy Savings Certificates (certificates) or pay a penalty. Scheme Participants that need to purchase certificates for surrender create the demand for certificates.

The Act also provides for parties to be accredited to create certificates from recognised energy saving activities.[a] These parties are voluntary participants in the ESS, and are known as Accredited Certificate Providers. This activity creates the supply of certificates.

a Certificates may be created up to six months after the end of the calendar year in which the energy savings occur (or are deemed to occur) – for example, 2019 vintage certificates may be created up until 30 June 2020.

1.1 COVID-19 pandemic impacts

The COVID-19 pandemic presented a unique challenge for compliance in 2019, with key compliance and certificate creation deadlines falling within a period of heightened COVID-19 restrictions. Like many workplaces, we moved to a remote working model to protect the health of our team and stakeholders.

In responding to the challenges presented by the pandemic, we considered the operational, administrative and certificate market impacts of the situation. We assisted Scheme Participants and Accredited Certificate Providers by:

- Extending the deadline for surrender of certificates and payments of shortfall penalties for eight Tier 2, standalone, privately owned Scheme Participants
- Providing extensions to the audit deadline for eight Scheme Participants
- Allowing flexibility in some aspects of audits, particularly for site visits where access was limited due to social distancing and restrictions on travel to regional sites
- Allowing one Accredited Certificate Provider to create 2019 vintage certificates where a reasonable assurance opinion from an auditor could not be obtained for reasons relating to the COVID-19 pandemic.

We will continue to monitor and respond to the impacts of COVID-19 on Scheme Participants and Accredited Certificate Providers.

1.2 Future scheme risks and opportunities

We observed clear shifts in the nature and activities of both Scheme Participants and Accredited Certificates Providers, which present challenges for assuring compliance with ESS requirements. The business models of Accredited Certificate Providers continue to evolve,

with an increasing reliance on sub-contracted labour and agents. The number of electricity retailers has increased significantly, with a number of small, standalone retailers facing an individual energy savings target for the first time. Monitoring emerging trends in our stakeholders' operations is essential to ensure a robust compliance framework and identify areas in which the scheme must evolve to remain relevant and fit for purpose.

As the complexity of the energy market increases, we also need to consider emerging trends in the broader market — including the impact of changes in the way energy is delivered — on how the scheme operates. For example, we have already seen that an increase in the amount of unregistered generation not recorded by the Australian Energy Market Operator (eg, rooftop solar panels) has increased the complexity of the compliance assessment. The ESS was designed for traditional energy systems, but with the increasing uptake of distributed energy resources (ie, rooftop photovoltaics, batteries) it is likely the scheme will need to adapt to accommodate these changes.

The 2020 ESS statutory review[7] and release of the NSW Electricity Strategy[8] (including the Energy Security Target and Safeguard) by the Department of Planning, Industry and Environment reinforces the need for the ESS to respond to market changes, and foreshadows a period of major reform for the scheme. They also provide an opportunity for us to work closely with policy makers and other agencies to ensure the scheme continues to achieve its objectives and incentivise additional energy savings.

1.3 Stakeholder engagement

Empowering stakeholders by developing engagement strategies, information products and tools is important to ensure understanding of ESS requirements and improve compliance outcomes. In 2019 stakeholder communication and engagement was a priority for the ESS. In consultation with stakeholders, we developed the Project Impact Assessment with Measurement and Verification method requirements. We also commenced an update of our public facing guidance material to clarify existing requirements and improve accessibility, readability and user-friendliness. In 2020 stakeholders will begin to see the benefits of these updates in terms of increased clarity, certainty and efficiency of requirements and processes.

In 2019 the ESS Committee attended our annual stakeholder forum for the first time, recognising the importance of face-to-face stakeholder engagement, and in response to stakeholder requests for access to decision makers. The Chair of the ESS Committee provided some insights into our efforts to build a compliance culture and the ESS Committee's decision making process. We also updated stakeholders on scheme administration and compliance issues, and sought feedback on our performance as Scheme Administrator and Scheme Regulator.

1.4 Energy savings achieved

We estimate the ESS has achieved, or will achieve, actual electricity savings of 31,498,510 MWh and actual gas savings of 1,013,263 MWh as a result of certificates created

[7] Department of Planning, Industry & Environment, *NSW Energy Savings Scheme – Draft Statutory Review Report*, 2020.
[8] Department of Planning Industry & Environment, *NSW Electricity Strategy*, 2019.

since the ESS commenced in 2009. These savings include 15,070,784 MWh of electricity savings and 726,981 MWh of gas savings that will be realised over the next 10 years from energy saving activities implemented before or during 2019.

The ESS is funded through electricity prices, and affects the cost of living for NSW consumers. In 2019 the cost of the scheme represented 0.6% of the total cost of supplying electricity to NSW residential customers, equivalent to $8 of the representative annual consumer electricity bill of $1,294.[9] The total cost to electricity customers from charges passed through by the electricity retailers is in the range of $88 million to $112 million.[10] As Scheme Administrator and Scheme Regulator, it is essential we maintain the scheme's integrity, to ensure the subsidies that energy consumers pay result in genuine energy savings.

The majority of certificates created in 2019 were due to energy savings from lighting activities. In previous years the majority of certificates were created from commercial lighting activities. However, the share of commercial lighting activites in the ESS has declined as commercial lighting upgrades approach market maturity. In 2019 we saw a shift toward the residential and small business sector, with the number of certificates created from lighting activities under the Home Energy Efficiency Retrofits method[11] increasing five-fold. Certificates created from residential and small business lighting activities in 2019 represented 30% of all certificates created from lighting activities, compared with 5% in 2018.

1.5 Compliance by Accredited Certificate Providers

Compliance by Accredited Certificate Providers in 2019 was generally high, with most non-compliance from improper creation of certificates. We identified 69,454 certificates as being improperly created, equivalent to 1.4% of all certificates created in 2019. The number of instances of non-compliance was higher than in 2018, as was the number of improperly created certificates which was equivalent to 0.8% of all certificates created in 2018.

Most improper certificate creation was due to non-compliance with the requirements of the Project Impact Assessment with Measurement and Verification method — specifically, due to a lack of understanding or misinterpretation of the requirements of this complex method. In 2019 we addressed this emerging compliance issue by developing guidance material to clarify the method requirements. We undertook a consultation process to develop the guidance material to ensure it provided the necessary level of certainty and clarity and was targeted to the relevant stakeholders.

We also identified several new challenges relating to the increasing uptake of the Home Energy Efficiency Retrofits method. This method opens the ESS to the small business and residential sectors, and improves performance against the scheme objectives. However the method has introduced higher volume, lower margin activities, increasing quality and safety compliance risks. We increased our guidance and other compliance activity associated with this method to address this emerging trend.

In previous years, non-compliance with the co-payment requirement of the Commercial Lighting Energy Savings Formula was an ongoing issue. In 2017 and 2018 we targeted this

9 Australian Energy Market Commission, *Residential electricity price trends 2019*.
10 Based on an average certificate price range ($19 to $24).
11 ESS calculation methods are described in Box 2.2.

area of non-compliance, and in 2019 we saw a marked reduction in these non-compliances. Recently we have seen increasing instances of document modification or falsification, and have increased our compliance activity in this area. We will continue to target this area of non-compliance into 2020 to protect the integrity of the scheme.

1.6 Compliance by Scheme Participants

There were 90 Scheme Participants operating in NSW during the 2019 calendar year. The annual energy savings statements (**AESSs**) of 41 Scheme Participants were audited, covering 99% of the total liable acquisitions for the compliance year. Compliance by Scheme Participants was high. All seven cases of non-compliance were due to late lodgement of AESSs or nil returns. Because all Scheme Participants submitted an AESS (or nil return) when prompted, and the impact on compliance with the overall energy savings target was minimal, we did not take any further compliance action.

A total of 4,624,607 certificates were surrendered to satisfy Scheme Participants' combined compliance obligation for 2019.[12] As a result, 97.4% of the energy savings target was met by certificate surrender. The shortfall was either carried forward to 2020 (2.3%) or met through penalty payments (0.3%).

We have seen the Scheme Participant landscape change in recent years as an increasing number of small electricity retailers have entered the scheme as liable entities. It is important that we encourage and support these smaller retailers as they add to the competitive retail market and help to keep retail energy margins low for the benefit of NSW consumers. However, their introduction to the scheme has also introduced new challenges for managing their compliance with legislative obligations where compliance processes and scheme compliance capabilities are not yet well developed. In response, we have increased our support for this segment of the market to ensure Scheme Participants can meet their compliance obligations.

1.7 Scheme Administrator and Scheme Regulator functions

IPART is both the Scheme Regulator and Scheme Administrator for the ESS. The Scheme Regulator role relates to activities of Scheme Participants, while the Scheme Administrator role relates to the activities of Accredited Certificate Providers.

The functions of the Scheme Regulator and Scheme Administrator were exercised by the Tribunal, which comprised Dr Paul Paterson as Chair and Ms Deborah Cope and Mr Ed Willett as Tribunal Members. In December 2019 Ms Sandra Gamble was appointed as a member of the Tribunal to replace outgoing member Mr Ed Willett.

For much of 2019 the Tribunal delegated its functions to the ESS Committee,[13] which comprised Mr Ed Willett as Chairman and Dr Brian Spalding and Ms Pamela Soon as Committee Members.

12 Including certificates surrendered to satisfy shortfall carried forward from 2018.

13 Clause 55(4) of Schedule 4A to the Act allows IPART, with the approval of the Minister, to delegate the exercise of its functions as Scheme Regulator and Scheme Administrator to another person or body.

The Secretariat continued to perform certain administrative functions previously delegated to it by the Tribunal for administrative efficiency.

1.8 Report structure

The remainder of this report discusses the compliance performance and operation of the ESS during 2019:

- Chapter 2 focuses on the scheme's performance in terms of energy savings achieved and certificate market activity
- Chapter 3 reports on compliance by Scheme Participants
- Chapter 4 reports on compliance by Accredited Certificate Providers
- Chapter 5 describes our scheme development activities
- Chapter 6 outlines our activities in administering the scheme.

Further information about the ESS is available on our website.[14]

14 www.ess.nsw.gov.au

2 Scheme performance

The principal objective of the ESS is to create a financial incentive to reduce energy consumption (electricity and gas) by encouraging energy saving activities by electricity consumers.[15] To assess the scheme's performance against this objective, each year we estimate the energy savings achieved from certificate creation. In 2019 we found:

- The scheme continued to incentivise energy savings activities, with 4,870,731 certificates created in 2019 — a decrease of 6% compared with 2018.
- Estimated electricity savings of 2,862,443 MWh and gas savings of 144,636 MWh were realised in the 2019 calendar year from energy savings activities implemented before or during 2019.
- Energy savings activities implemented under the scheme will deliver an estimated additional 15,070,784 MWh of electricity savings and 726,981 MWh of gas savings over the next ten years.

2.1 Energy savings achieved

Accredited Certificate Providers created 4,870,731 certificates in 2019, representing 4,509,555 MWh of electricity savings and 232,314 MWh of gas savings.[16]

For some energy savings activities, certificates may be created in advance of the savings occurring (Box 2.1). The projections for energy savings in future years (2020-2029) are based on the number of certificates that Accredited Certificate Providers have 'forward created'. To estimate these future savings, we pro-rate the certificates created in each year across the forward creation or deeming period of the relevant energy saving activity.

Table 2.1 summarises the actual electricity and gas savings we estimate will be realised under the ESS as a result of certificates created between 2009 and 2019.

15 The objectives of the ESS are specified in clause 1 of Schedule 4A to the Act.

16 To calculate certificates, the electricity and gas savings achieved (in MWh) are multiplied by the relevant certificate conversion factor (1.06 for electricity and 0.39 for gas) per clause 33 of Schedule 4A to the Act.

Box 2.1 Forward creation of certificates

For some recognised energy saving activities, certificates may be created in advance of the actual energy savings occurring, where those savings will continue for up to 15 years into the future – referred to as forward creation and deeming.

Under the Project Impact Assessment method and the Project Impact Assessment with Measurement and Verification method, it is possible to forward create certificates (at the start of the energy savings period) for up to five years and ten years respectively, based on estimated energy savings. The certificates are discounted by an approved percentage to account for some uncertainty, and may later be 'topped up' if additional actual savings can be verified.

Under the Deemed Energy Savings method, which includes the Commercial Lighting Energy Savings Formula, the lifetime or deemed energy savings are estimated up front and the certificates are forward created from the time the activity is implemented. The deeming period depends on the type of activity, and typically ranges between seven years and 15 years.

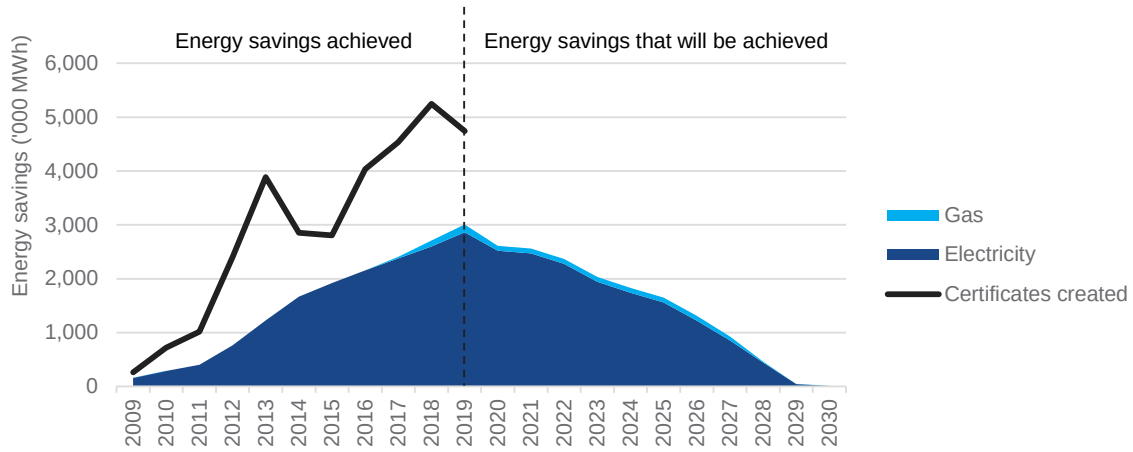
Table 2.1 Estimated actual energy savings (MWh per year)

	2009-2018	2019	2020-2029[a]	Total
Electricity	13,556,373	2,862,443	15,070,784	31,489,600
Gas	141,647	144,636	726,981	1,013,263

[a] Estimate does not include savings from 2020 vintage certificates or savings deemed to occur beyond 2029 for activities with forward creation periods in excess of 10 years.

Figure 2.1 shows the actual electricity and gas savings the ESS has achieved, or will achieve, based on the number of certificates created between 2009 and 2019.

Figure 2.1 Certificates created and estimated actual energy savings



The ESS allows energy savings to be calculated using a number of calculation methods designed for particular sectors and activities. Tables 2.2 and 2.3 detail the actual electricity and gas savings that have occurred, or are estimated to be realised over the next 10 years, by calculation method. Box 2.2 explains how the different calculation methods relate to energy saving activities.

Table 2.2 Estimated actual electricity savings by calculation method, 2009 to 2029 ('000 MWh per year)[a]

Calculation method	2009-18[b]	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029[d]	Total
Deemed Energy Savings method													
Commercial Lighting Formula	7,382	2,156	2,149	2,102	1,909	1,579	1,377	1,200	898	580	235	0	21,566
Sale of New Appliances	296	143	143	143	143	143	143	141	113	83	54	30	1,578
Default Savings Factors	663	28	0	0	0	0	0	0	0	0	0	0	691
Removal of Old Appliances	100	15	9	6	5	2	0	0	0	0	0	0	136
Installation of High Efficiency Appliances for Businesses	3	6	6	6	6	6	6	6	6	5	4	0	61
Public Lighting Formula	11	17	17	17	17	17	17	17	17	17	17	14	197
Home Energy Efficiency Retrofits	20	118	118	118	118	118	118	118	118	117	100	0	1,185
Power Factor Correction Formula	0	0	0	0	0	0	0	0	0	0	0	0	0
High Efficiency Motor Formula	0	0	0	0	0	0	0	0	0	0	0	0	1
Subtotal	**8,476**	**2,484**	**2,443**	**2,393**	**2,199**	**1,866**	**1,662**	**1,483**	**1,152**	**803**	**410**	**44**	**25,416**
Metered Baseline method[c]													
Baseline per unit of output	2,117	133	0	0	0	0	0	0	0	0	0	0	2,250
Baseline unaffected by output	137	8	0	0	0	0	0	0	0	0	0	0	145
NABERS baseline	328	14	0	0	0	0	0	0	0	0	0	0	342
Normalised baseline	867	139	0	0	0	0	0	0	0	0	0	0	1006
Subtotal	**3,449**	**294**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3,743**
Project Impact Assessment with Measurement and Verification method	77	77	77	77	77	77	77	76	70	51	33	0	768
Project Impact Assessment method	1,555	8	0	0	0	0	0	0	0	0	0	0	1,562
Total	**13,556**	**2,862**	**2,520**	**2,470**	**2,276**	**1,943**	**1,739**	**1,559**	**1,221**	**854**	**444**	**44**	**31,490[e]**

a Box 2.2 explains the calculation methods. Methods for which certificates are yet to be created (eg, Aggregated Metered Baseline method) are not included in this table.

b For the period from 1 July 2009 to 31 December 2018.

c Certificates can only be created under the Metered Baseline method after the savings have occurred resulting in 'zero' savings for 'future' years (Box 2.1).

d Clause 76(2)(e) of Schedule 4A to the Act requires the Scheme Administrator to estimate electricity savings over the next 10 years having regard to the number of certificates created.

e Represents total electricity savings achieved under the ESS based on total certificates between 2009 and 2019.

Table 2.3 Estimated actual gas savings by calculation method, 2009 to 2029 ('000 MWh per year)[a]

Calculation method	2009-18[b]	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029[d]	Total
Deemed Energy Savings method													
Installation of High Efficiency Appliances for Businesses	9	9	9	9	9	9	9	9	9	7	3	0	**91**
Subtotal	**9**	**9**	**9**	**9**	**9**	**9**	**9**	**9**	**9**	**7**	**3**	**0**	**91**
Metered Baseline method[c]													
Baseline per unit of output	48	46	0	0	0	0	0	0	0	0	0	0	**94**
Normalised baseline	5	8	0	0	0	0	0	0	0	0	0	0	**12**
Subtotal	**53**	**54**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**106**
Project Impact Assessment with Measurement and Verification method	80	82	82	82	82	82	82	82	82	68	15	0	**815**
Total	**142**	**145**	**91**	**91**	**91**	**91**	**91**	**91**	**91**	**74**	**18**	**0**	**1,013[e]**

a Box 2.2 explains the calculation methods. Methods for which certificates are yet to be created are not included in this table.

b For the period from 1 July 2009 to 31 December 2018.

c Certificates can only be created under the Metered Baseline method after the savings have occurred resulting in 'zero' savings for 'future' years (Box 2.1).

d Clause 76(2)(e) of Schedule 4A to the Act requires the Scheme Administrator to estimate gas savings over the next 10 years having regard to the number of certificates created.

e Represents total gas savings achieved under the ESS based on total certificates created between 2009 and 2019.

Notes for Tables 2.2 and 2.3: Figures are rounded to nearest integer (this rounding may result in 'zero' certificates for some years with small certificate creation). Totals may not add exactly due to rounding. Small differences in data compared with previous annual reports reflect certificates that have been forfeited after the report was released.

Box 2.2 How the calculation methods relate to energy saving activities

Deemed Energy Savings method

The **Deemed Energy Savings method** provides for a wide range of energy saving activities, many of which can be applied in the residential sector. These calculation methods deem that energy savings commence at implementation and continue into the future (Box 2.1). Deemed methods are specific to the type of activity and include:

- **Home Energy Efficiency Retrofits** provides for activities that improve the energy efficiency in homes and small businesses.
- **Commercial Lighting Energy Savings Formula** encompasses the replacement of inefficient lights with more efficient lights.
- **Sale of New Appliances** encourages retailers to sell energy efficient appliances over less efficient ones.
- **Public Lighting Energy Savings Formula** covers the upgrade of traffic signals, or lighting for roads and public spaces.
- **Removal of Old Appliances** encourages the removal and destruction of old inefficient fridges and freezers.
- **Installation of High Efficiency Appliances for Business** covers the installation of energy efficient heating, cooling and refrigeration units.
- **Power Factor Correction Energy Savings Formula** covers the installation of capacitors to more efficiently manage the power supply to commercial or industrial sites.

Project Impact Assessment with Measurement and Verification

The **Project Impact Assessment with Measurement and Verification method** requires the development of complex energy models to accurately predict energy savings at commercial and industrial sites.

It replaced the **Project Impact Assessment method** which allows an engineering assessment, measurement or modelling to be used to calculate energy savings. Accredited Certificate Providers accredited to use the Project Impact Assessment method on or before 30 September 2014 may still use it to calculate energy savings for certain projects.

Metered Baseline method

The **Metered Baseline method** encompasses a range of sub-methods designed to achieve energy savings by measuring electricity or gas consumption before and after an activity is carried out. Unlike the other methods, it does not allow deeming, or forward creation, of certificates. It includes the **NABERS Baseline** sub-method, which uses commercial buildings ratings from the National Australian Built Environment Rating System (NABERS) to measure improvements in energy efficiency.

2.2 Certificate market activity

As Scheme Administrator, we maintain publicly available registers of Accredited Certificate Providers and certificates on the ESS Registry.[17] This registry records information about all Accredited Certificate Providers, their activities and the certificates they create. It also records information about each certificate, including the creator, vintage, energy saving calculation method used, activity undertaken and ownership history. In addition, it tracks the status of a certificate, which is either live (available for transfer or surrender), surrendered or forfeited.

We observed some shifts in certificate market activity that differed from trends seen in previous years. Most notably:

- The number of certificates created in 2019 was less than in 2018
- The number of certificates surrendered in 2019 was almost equivalent to the number of certificates created
- The proportion of certificates created under different calculation methods changed.

2.2.1 Certificate creation by calculation method

In previous years more than 70% of certificates created have been from commercial lighting activities under the Commercial Lighting Energy Savings Formula method. In 2019 the number of certificates created using this method decreased by 32% and commercial lighting activities represented 51% of the total certificates created (Table 2.4).

There was a clear shift toward residential and small business lighting activities observed with the number of certificates created under the Home Energy Efficiency Retrofits method increasing by 460%. In 2018 certificates created using the Home Energy Efficiency Retrofits method made up 4% of all certificates created. In 2019 certificates created using this method represented 22% of all certificates created.

Although commercial lighting activities decreased, the uptake in residential and small business lighting activities meant that the majority of certificate creation continued to be from lighting activities (Table 2.5). Market activity across other project types remained consistent with previous years.

[17] IPART, *ESS Registry and ESS Portal.*

Table 2.4 Number of certificates created by energy savings calculation sub-method, 2009 to 2019[a]

Calculation method	2009-2016[b]	2017	2018	2019	Total
Deemed Energy Savings method					
Commercial Lighting Energy Savings Formula	13,344,827	3,370,405	3,651,335	2,493,849	**22,860,416**
Sale of New Appliances	702,547	338,535	280,908	350,541	**1,672,531**
Home Energy Efficiency Retrofits	0	11,843	188,422	1,055,796	**1,256,061**
Default Savings Factors	732,854	0	0	0	**732,854**
Public Lighting Energy Savings Formula	0	40,048	64,907	113,326	**218,281**
Removal of Old Appliances	131,274	12,522	0	0	**143,796**
Installation of High Efficiency Appliances for Businesses	3,672	15,320	25,655	55,710	**100,357**
High Efficiency Motor Energy Savings Formula	1,569	0	0	0	**1,569**
Power Factor Correction Energy Savings Formula	228	0	0	0	**228**
1-for-1 Residential Downlight Replacement	0	0	0	0	**0**
Metered Baseline method					
Baseline per unit of output	1,827,216	248,734	186,721	159,229	**2,421,900**
Normalised baseline	577,834	176,483	166,722	150,468	**1,071,507**
NABERS baseline	300,336	26,946	20,330	14,518	**362,130**
Baseline unaffected by output	110,898	24,370	9,804	8,190	**153,262**
Aggregated metered baseline	0	0	0	0	**0**
Project Impact Assessment method	1,261,369	172,840	165,583	56,422	**1,656,214**
Project Impact Assessment with Measurement and Verification method	76,646	248,612	394,547	412,682	**1,132,487**
Total	**19,071,270**	**4,686,658**	**5,154,934**	**4,870,731**	**33,783,593**

[a] Box 2.2 explains the calculation methods. Methods for which certificates are yet to be created are not included in this table.

[b] Refer to previous ESS Annual Reports for a breakdown of the number of certificates created during these years.

Note: Small differences in data compared with previous annual reports reflect certificates that have been forfeited after the report was released.

Table 2.5 Number of certificates created by project type, 2009 to 2019[a]

Project type	2009-2016[b]	2017	2018	2019	Total
Lighting	13,578,496	3,421,561	3,810,183	3,137,308	**23,947,548**
Multiple activities	1,097,599	458,250	612,508	666,514	**2,834,871**
Process change/control Systems	1,662,892	137,100	98,728	117,257	**2,015,977**
New appliances	703,506	338,535	290,714	380,623	**1,713,378**
Heating, ventilation and air-conditioning	372,066	128,035	118,979	195,337	**814,417**
Showerheads	728,025	0	0	0	**728,025**
Building upgrade	284,910	43,347	67,247	38,655	**434,159**
Refrigeration	184,562	41,734	50,676	30,599	**307,571**
Home retrofit	0	0	5,139	265,313	**270,452**
Compressed air	162,622	28,841	33,317	1,734	**226,514**
Fans/pumps	122,930	50,626	23,152	6,601	**203,309**
Refrigerator and freezer removal	131,274	12,522	0	0	**143,796**
Air handling, fans, ventilation	0	25,702	22,187	23,515	**69,404**
Power systems	29,245	405	17,367	7,275	**54,292**
Industrial refrigeration and freezing	7,376	0	6,737	0	**14,113**
High efficiency motors	5,539	0	0	0	**5,539**
Power factor correction	228	0	0	0	**228**
Total	**19,071,270**	**4,686,658**	**5,154,934**	**4,870,731**	**33,783,593**

[a] Box 2.2 explains the calculation methods. Methods for which certificates are yet to be created are not included in this table.

[b] Refer to previous ESS Annual Reports for a breakdown of the number of certificates created during these years.

Note: Small differences in data compared with previous annual reports reflect certificates that have been forfeited after the report was released.

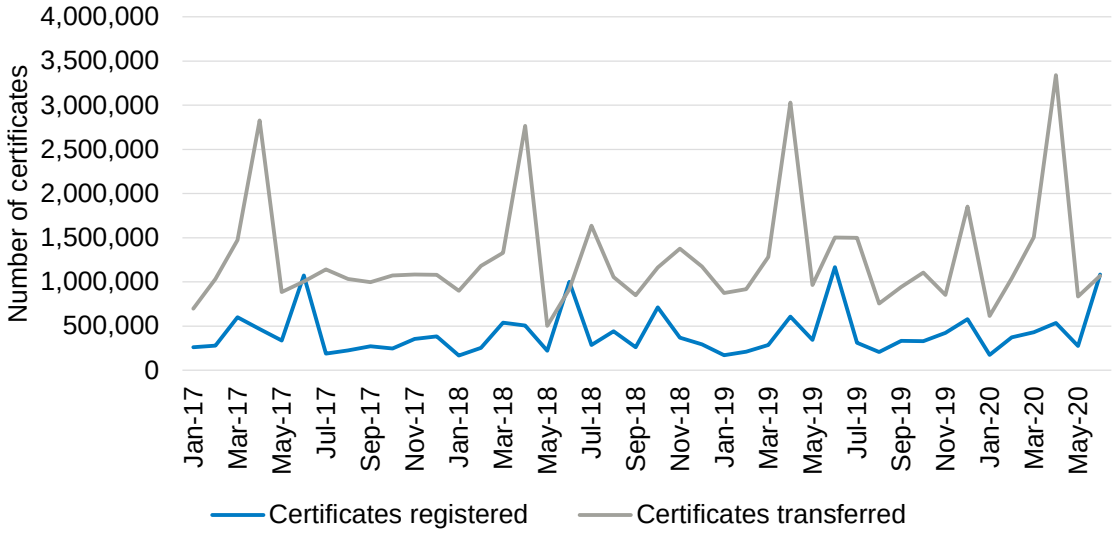
2.2.2 Certificate registration and transfer activity

As in previous years, monthly certificate registration and certificate transfers fluctuated across the year (Figure 2.2). The average monthly certificate registration was 409,864 certificates, with typical peaks in June and April. These peaks were likely due to the:

- 30 April deadline for Scheme Participants to surrender certificates
- 30 June deadline for registering certificates for activities that were implemented in the previous calendar year.

The peak in December 2019 may be due to the increase in ESC price from 1 January 2020.

Figure 2.2 Number of certificates registered and transferred, by month



There were 2,146 certificate transfers[18] in 2019, involving 15.6 million certificates – approximately three times the number of certificates registered in 2019. This increase suggests certificates were transferred multiple times between their initial creation and final surrender.

2.2.3 Surrender and forfeit of certificates

The ESS Registry recorded the surrender of 4,866,779 certificates for 2019. Of these, 4,624,607 certificates were surrendered by Scheme Participants to meet their regulatory obligations. The remaining 242,172 certificates were voluntarily surrendered by the NSW Office of Environment and Heritage as part of its Small Business Upgrade Program.

The ESS Registry recorded 80 instances where certificates were voluntarily forfeited by Accredited Certificate Providers and cancelled in the registry. These instances involved 50,419 certificates, which were forfeited to:

- Address improper certificate creation identified through audit or other means (Section 4.2.2)

18 Each time there is a change in ownership of certificates, it is recorded as a transfer in the ESS Registry.

- Correct errors identified during the certificate registration process (such as registering a certificate as the incorrect vintage) or errors identified by the Accredited Certificate Provider.

2.2.4 Cumulative certificate surplus

At 30 June 2020 5,133,631 certificates of 2019 vintage or older were available for surrender in future compliance years (Table 2.6). Typically, the surplus rises throughout the year as Accredited Certificate Providers register certificates, and falls sharply in March/April of the following year when Scheme Participants surrender certificates to meet their compliance obligations (Figure 2.3).

Table 2.6 Supply and surplus of certificates

Year	Net certificates created[a]	Total certificates surrendered	Revived certificates	Surplus for the compliance year	Cumulative surplus
2009	276,942	148,928	0	128,014	128,014
2010	764,385	651,655	0	112,730	240,744
2011	1,079,407	1,063,564	0	15,843	256,587
2012	2,553,627	1,885,240	0	668,387	924,974
2013	4,121,802	2,491,055	0	1,630,747	2,555,721
2014	3,023,249	2,700,190	26,603[b]	349,662	2,905,383
2015	2,971,703	2,706,669	0	265,034	3,170,417
2016	4,280,155	3,766,762	0	513,393	3,683,810
2017	4,686,658	4,063,989	0	622,669	4,306,479
2018	5,154,934	4,331,734	0	823,200	5,129,679
2019	4,870,731	4,866,779	0	3,952	5,133,631

a Small differences in data compared with previous annual reports reflect certificates forfeited after the reports were released.

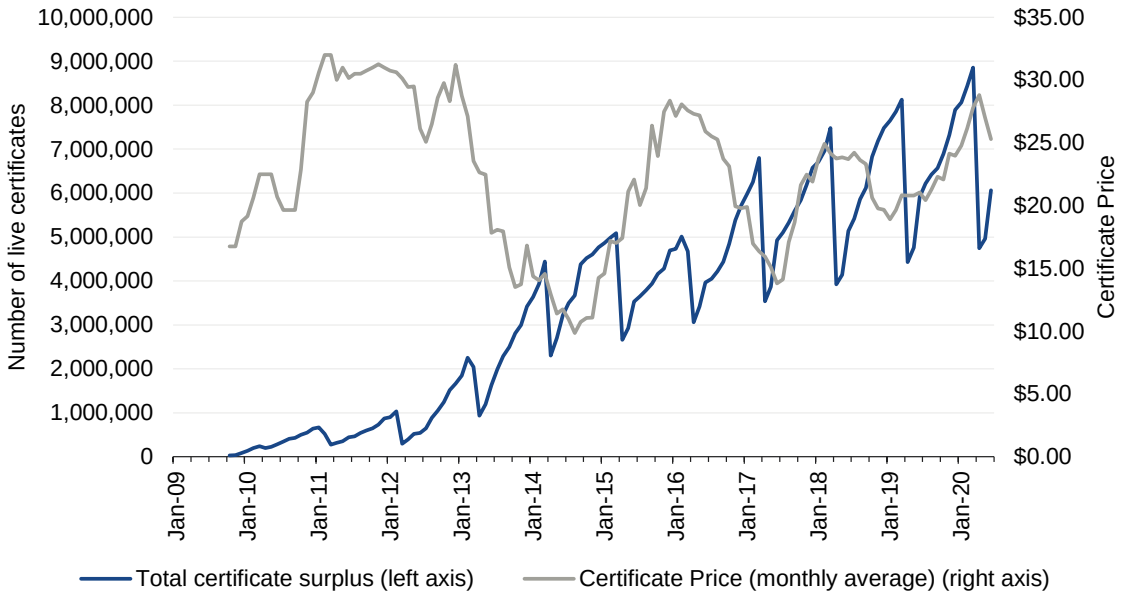
b The certificates revived in 2014 increased the cumulative surplus at the end of the 2014 calendar year (sections 2.2.6 and 3.3 of the 2014 ESS Annual Report, available on our website, contain further details).

Prior to 2019 the cumulative surplus continued to increase steadily each year as annual certificate creation exceeded the number of certificates surrendered. In 2019 the cumulative surplus remained steady as the number of certificates created was almost equal to the number of certificates surrendered. It is likely that the current surplus will still exceed the number of certificates required to be surrendered for 2020.

The indicative certificate price[19] varied across the year, from a low of $19 in early 2019 to a high of $24 in late 2019 (Figure 2.3). This variation is within the price range of $10 to $32 observed since the ESS started. Certificate price varies over time because the certificates are traded in a free market.

19 The price data is provided by third parties. Because it does not include price data for all certificate trades, it may not represent the actual average certificate price over time. Nevertheless, it provides a useful guide to broad movements in the certificate price.

Figure 2.3 Total certificate surplus and indicative certificate price[a]



a Based on data provided by the financial brokers, Nextgen and TFS Green Australia, for all certificates traded through brokers in both the spot market and the forward market.

3 Compliance by Scheme Participants

Scheme Participants include all holders of NSW electricity retail licences ('retailers'), NSW electricity generators that supply electricity directly to customers in NSW ('direct suppliers of electricity'), and customers in NSW that purchase electricity directly from the National Electricity Market ('market customers'). Each Scheme Participant has legal obligations under the scheme (Box 3.1) to surrender certificates, or pay a penalty, to meet their individual energy savings target. This target establishes the demand for certificates, and creates the financial incentive to reduce energy consumption that underpins the scheme.

The overall energy savings target for 2019 was 8.5% of all electricity purchased for supply to end use customers in NSW. After deducting allowed exemptions, the effective target for 2019 was 7.1% — equivalent to 4,649,936 notional MWh or 4,649,936 certificates.

In 2019 97.4% of the energy savings target was met by surrendered certificates, with 2.3% carried forward to 2020 and 0.3% met through penalty payments. A total of 4,624,607 certificates were surrendered to satisfy Scheme Participants' combined compliance obligation for 2019.

Compliance by Scheme Participants was high, with only seven instances of non-compliance. All instances of non-compliance were from lodgement of an AESS (or nil return) after the 30 April 2020 due date.

The number of Scheme Participants continues to rise each year. There were 90 Scheme Participants in 2019, including 87 retailers, two direct suppliers of electricity, and one market customer (Table 3.1).

Table 3.1 Number of each type of Scheme Participant

	2015	2016	2017	2018	2019
Retailers	55	58	62	71	**87**
Direct suppliers of electricity	3	3	2	2	**2**
Market customers	1	1	1	1	**1**
Total number of Scheme Participants	**59**	**62**	**65**	**74**	**90**

3.1 Impacts of COVID-19

The COVID-19 pandemic impacted Scheme Participant compliance with 2019 obligations. We provided concessional treatment to eight Scheme Participants experiencing COVID-19 related hardship, granting them:

- A one month extension to surrender additional certificates to meet their obligations, and/or
- A one year extension to pay any subsequent shortfall penalty.

In offering concessional treatment there was a need to provide a balanced approach which considered potential disruption to the certificate market and potential adverse cash flow impacts on Accredited Certificate Providers. As such, we only offered extensions for surrender of certificates and shortfall penalty payments to Scheme Participants that were Tier 2,[20] standalone, privately owned electricity retailers with a certificate deficit[21] that requested an extension to meet their obligations. These Scheme Participants were considered the most likely to face financial hardship as a result of COVID-19 restrictions.

Because of these extensions, compliance with 2019 obligations is still pending for five Scheme Participants. These Scheme Participants were granted extensions until 30 June 2021 to pay their shortfall penalties to meet their obligations. Compliance by these Scheme Participants with their 2019 obligations will be reported in our 2020 annual report. The rest of this section reports compliance by the remaining 85 Scheme Participants.

20 Tier 2 retailers in NSW include all retailers other than Origin Energy, AGL and EnergyAustralia.

21 A certificate deficit exists where a Scheme Participant's estimated certificate liability exceeds their certificate ownership and/or certificates already offered for surrender to meet their obligations.

Box 3.1 Scheme Participant obligations

To meet their obligations, each Scheme Participant that has made liable acquisitions in the compliance year must:

- Calculate their individual energy savings target for the year
- Meet their individual energy savings target by obtaining and surrendering certificates, carrying forward a maximum 10% energy savings shortfall and/or paying an energy savings shortfall penalty
- Lodge their annual energy savings statement (AESS) by the compliance deadline, including:
  - The Scheme Participant's calculation of its individual energy savings target
  - The particulars of its liable acquisitions and any deductions in respect of exempt loads
  - The extent to which it met the target by surrendering certificates
  - Any energy savings shortfall it is carrying forward
  - Any penalty it is required to pay
- Lodge an independent audit report of the AESS, if required.[a]

Scheme Participants that have not made liable acquisitions in the compliance year must submit a 'nil return' form by the compliance deadline to satisfy their obligations under the scheme.

[a] An audit is typically required if the AESS includes data about liable acquisitions from non-market sources or seeks exemptions for any electricity loads (sections 3.3 and 3.5).

3.2 Scheme Participants' performance

In 2019 compliance by Scheme Participants was high (Table 3.2). All but seven Scheme Participants complied with their 2019 obligations. All instances of non-compliance were due to lodgement of an AESS (or nil return) after the 30 April 2020 due date.

Most of the AESSs not lodged by the due date were nil returns or had a small energy savings target. Some Scheme Participants did not originally submit an AESS (or nil return) because they had zero liable acquisitions, but provided an AESS when reminded.

A Scheme Participant that fails to lodge an AESS in accordance with the Act is guilty of an offence, and may be liable for a penalty. However, the Scheme Regulator decided not to take compliance action because all seven Scheme Participants submitted an AESS when prompted, and the impact on the compliance with the overall energy savings target was minimal.

Table 3.2 Scheme Participant compliance

	2015	2016	2017	2018	2019
Number of Scheme Participants	59	62	65	74	**90[a]**
Compliant	58	60	60	70	**78**
Non-compliant	1	2	5	4	**7**

[a] Compliance with 2019 obligations is still pending for five Scheme Participants and will be reported in our 2020 annual report (discussed in Section 3.1).

Table 3.3 summarises the compliance performance of all Scheme Participants and details the manner in which each Scheme Participant demonstrated compliance with 2019 obligations.

Table 3.3 Scheme Participant compliance details

Surrendered sufficient certificates to meet 2019 individual energy savings target (35 Scheme Participants)	
1st Energy Pty Ltd	M2 Energy Pty Ltd[a]
Alinta Energy Retail Sales Pty Ltd	Macquarie Bank Limited
amaysim Energy Pty Ltd (trading as amaysim and trading as Click Energy)	Momentum Energy Pty Ltd
Cleanpeak Energy Retail Pty Ltd (formerly ReNu Energy Retail Pty Ltd)	Pooled Energy Pty Ltd[b]
Diamond Energy Pty Ltd	Powershop Australia Pty Ltd
Discover Energy Pty Ltd	Progressive Green Pty Ltd (trading as Flow Power)
Elysian Energy Pty Ltd[a]	ReAmped Energy Pty Ltd
EnergyAustralia Pty Ltd[a]	Stanwell Corporation Limited
EnergyAustralia Yallourn Pty Ltd[a]	Sumo Power Pty Ltd
Enwave Mascot Pty Ltd	Sunset Power International Pty Ltd (trading as Delta Electricity)
Ergon Energy Queensland Pty Ltd	Tango Energy Pty Ltd
ERM Power Retail Pty Ltd	The Lumo Group[c]
Hanwha Energy Retail Australia Pty Ltd	The Origin Group[c]
Infigen Energy Markets Pty Ltd	Tomago Aluminium Company Pty Ltd
	WINconnect Pty Ltd
Surrendered certificates to meet part of 2019 individual energy savings target by the due date and chose to carry forward the remaining energy savings shortfall to 2020 (7 Scheme Participants)	
AGL Sales (Queensland Electricity) Pty Ltd	Next Business Energy Pty Ltd
AGL Sales Pty Ltd (& AGL South Australia Pty Ltd)[d]	Powerdirect Pty Ltd
IPower Pty Ltd and IPower 2 Pty Ltd (trading as Simply Energy)	Red Energy Pty Ltd
Surrendered certificates to meet part of 2019 individual energy savings target by the due date and remainder by 31 May 2020 (as per concessional treatment) (3 Scheme Participants)	
Blue NRG Pty Ltd	Energy Locals Pty Ltd
CovaU Pty Ltd	
Did not directly purchase or sell electricity in NSW in 2019 so individual energy savings target was zero (35 Scheme Participants)	
Active Utilities Retail Pty Ltd	Metered Energy Holdings Pty Ltd
AGL Macquarie Pty Ltd[b]	MTA Energy Pty Ltd
Apex Energy Holdings Pty Ltd[b]	Neighbourhood Energy Pty Ltd
Arc Energy Corporation Pty Ltd	OVO Energy Pty Ltd
Aurora Energy Pty Ltd	OzGen Retail Pty Ltd
Balance Commodities and Energy Pty Ltd	Positive Energy TM Pty Ltd
Bright Spark Power Pty Ltd	PowerHub Pty Ltd
CS Energy Limited	Radian Holdings Pty Ltd
EDL Retail Pty Ltd	Real Utilities Pty Ltd
ElectrAg Pty Ltd	Savant Energy Power Networks Pty Ltd
Electricity in a Box Pty Ltd	SIMEC ZEN Energy Retail Pty Ltd[b]
Energy On Pty Ltd	Starcorp Energy Pty Ltd
Energy Services Management Pty Ltd	Sunset Power International Pty Ltd (trading as Delta Electricity)
Evergy Pty Ltd	Sustainable Savings Pty Ltd
Humenergy Group Pty Ltd	The Embedded Networks Company Pty Ltd

Icon Retail Investments Limited (trading as ActewAGL Retail) and AGL ACT Retail Investments Pty Ltd[b]	Tilt Renewables Australia Pty Ltd
Infigen Energy Holdings Pty Ltd	YES Energy (SA) Pty Ltd
International Power (Retail) Pty Ltd	
Surrendered certificates to meet part of 2019 individual energy savings target by the due date and elected to pay an energy savings shortfall penalty against their remaining energy savings shortfall (5 Scheme Participants)	
Flow Systems Pty Ltd	Online Power and Gas Pty Ltd (trading as Future X Power)[b]
GloBird Energy Pty Ltd	Power Club Ltd[b]
Locality Planning Energy Pty Ltd	
Elected to pay an energy savings shortfall penalty by 30 June 2021 (as per concessional treatment) (5 Scheme Participants)	
Enova Energy Pty Ltd	QEnergy Ltd[e]
Mojo Power Pty Ltd	Sanctuary Energy Pty Ltd
People Energy Pty Ltd	

a Submitted annual energy savings statement required amendment by the Scheme Regulator.

b Submitted annual energy savings statement (or nil return) after 30 April 2020 deadline.

c Classified as four Scheme Participants.

d Classified as two Scheme Participants.

e Surrendered certificates to meet their shortfall carried forward from the 2018 compliance year.

3.3 Certificates surrendered

The energy savings target for 2019 was 4,649,936 certificates. This target was met through a combination of surrendered certificates, carry forward of up to 10% shortfall to 2020, and penalty payments. There were 4,530,153 certificates surrendered to satisfy Scheme Participants' 2019 targets. An additional 94,454 certificates were surrendered to meet the 2018 shortfall carried forward by some Scheme Participants to 2019.

Table 3.4 reconciles the certificates required to meet Scheme Participants' total combined compliance obligation for 2019 with the certificates offered, and accepted, for surrender.

Table 3.4 Reconciliation of certificates surrendered in 2019

Certificates required to meet 2019 compliance obligations	**4,649,936**
Add: Certificates required to meet shortfalls carried forward from 2018	94,454
Less: Shortfall carried forward to 2020	108,357
Less: Certificate equivalent value of penalties to be paid in lieu of certificate surrender	11,426
Total certificates surrendered	**4,624,607**

3.4 Deductions for exempt electricity loads

Under Clause 22 of Schedule 4A to the Act, the Minister can grant exemptions from the ESS for part of the electricity load used by entities in emissions intensive and trade exposed industries or activities. The activities and locations for which the electricity load is exempt are

listed in a Ministerial Order published each year in the Government Gazette.[22] Scheme Participants that supply electricity to entities in connection with exempt activities at these locations are entitled to deduct the exempt portion of their sales when calculating their annual liable acquisitions, which reduces their individual energy savings target.

During 2019 25 entities qualified for exemptions at 27 locations (all with 90% exemptions of the load). Various manufacturing activities are undertaken at these locations, including aluminium smelting; integrated iron and steel manufacturing; and the production of various chemicals, and glass and paper products.

Twelve Scheme Participants supplied electricity to the entities at these locations. In total, the Scheme Participants claimed deductions for exempt loads of 10,951,568 MWh, equivalent to 16.7% of the total electricity supplied in NSW in 2019. This figure was similar to deductions claimed in 2018, which represented 17.5% of the total load.

3.5 Energy savings shortfalls

When a Scheme Participant does not surrender sufficient certificates to meet its individual energy savings target, it may elect to carry forward a shortfall of up to 10% of its target to the following year. Any shortfall carried forward must be met in the following compliance year. Alternatively, the Scheme Participant can elect to pay a shortfall penalty.

3.5.1 Shortfalls for current compliance year

Thirteen Scheme Participants elected to carry forward shortfalls to the 2020 compliance year, representing a total obligation of 108,357 certificates or approximately 2.3% of Scheme Participants' combined compliance obligation for 2019. This figure is similar to the proportion of 2.2% that was carried forward in 2018.

Ten Scheme Participants elected to pay an energy savings shortfall penalty. The total penalty payments are equivalent to 11,426 certificates. Five of these Scheme Participants were granted a payment extension to 30 June 2021. Compliance with their obligations will be assessed in the 2020 annual report. The remaining five Scheme Participants paid their penalty payment by the due date to fully comply with their obligations.

3.5.2 Shortfalls from previous compliance years

In 2018 seven scheme participants elected to carry forward an energy savings shortfall to the 2019 compliance year. All Scheme Participants surrendered sufficient certificates to fulfil their 2018 obligations.

22 The Ministerial Order lists each exempt entity (company or business name), the trade exposed activity it undertakes, the site where the activity takes place, and the proportion of the load that is exempt under the ESS (90% for all loads in 2019). The amended Ministerial Order published on 14 December 2018 applied for the 2019 year (NSW Government Gazette no. 138 of 2018).

Four Scheme Participants have outstanding shortfall penalties from previous compliance years totalling $330,844.

3.6 Audits of Annual Energy Savings Statements

Scheme Participants are required to have their AESS audited when the statement includes an exempt electricity load claim or non-market acquisitions. If the non-market acquisitions are below 1,000 MWh and the Scheme Participant has had its AESS previously audited with no significant issues reported, the Scheme Participant may be exempt from requiring an audit of their AESS.

When required, audit reports must be submitted with the Scheme Participant's AESS by 30 April. In response to business impacts and operational challenges caused by the COVID-19 pandemic, we granted two-week extensions to eight Scheme Participants for audits of their compliance for 2019.

In 2019 the AESSs of 41 Scheme Participants were audited. These audits covered 99% of the total liable acquisitions for the compliance year.

Members of the ESS Audit Services Panel conducted these audits to verify:

- Inputs and arithmetical calculations were correct
- Claims for exemptions for electricity sold to exempt entities were supported by appropriate evidence
- Any energy savings shortfalls had been calculated correctly.

Generally, the standard of audit reports was good and audit reports were provided by the due dates. The auditors found some input errors, some of which were either corrected when the AESS was submitted or dealt with as amended assessments. The identified errors primarily related to measurement and qualification of non-market liable acquisitions, including solar photovoltaic acquisitions, which resulted in Scheme Participants misstating acquisitions.

4 Compliance by Accredited Certificate Providers

Accredited Certificate Providers include all organisations accredited to create certificates from recognised energy saving activities in NSW. Accredited Certificate Providers have a range of legal obligations under the Act, *Electricity Supply (General) Regulation 2014* (**Regulation**) and *Energy Savings Scheme Rule of 2009* (**ESS Rule**) (Box 4.1). We actively manage their compliance with these obligations (Box 4.2). A major focus of our compliance activity is the use of audits to provide assurance over certificates created for energy savings. We also receive and act on information from other sources, including customers. Where we detect non-compliance, we take action to protect the integrity of the ESS.

Compliance was generally high and all material non-compliances were resolved

On 31 December 2019 there were 91 Accredited Certificate Providers holding 177 accreditations, including 13 new accreditations granted in 2019. During 2019 56 Accredited Certificate Providers and 82 accreditations were active, and created certificates from energy saving activities at thousands of sites across NSW.

Table 4.1 summarises the details of Accredited Certificate Providers and accreditations for the period 2015 to 2019.

Table 4.1 Accredited Certificate Providers and accreditations

	2015	2016	2017	2018	2019
Accredited Certificate Providers[a]	115	90	91	93	**91**
Active Accredited Certificate Providers[b]	50	50	56	63	**56**
Accreditations[a]	200	171	175	172	**177**
Active accreditations[c]	76	70	77	93	**82**
New accreditations	24	22	26	15	**13**
Cancelled accreditations	19	51	22	18	**8**

a At 31 December of the calendar year.

b Active Accredited Certificate Providers are those that registered certificates in 2019.

c Active accreditations are those for which the Accredited Certificate Provider registered certificates for implementations conducted in 2019.

In 2019 the compliance of most Accredited Certificate Providers was high. As in previous years, most identified non-compliances related to the improper creation of certificates. A common reason for improper creation in 2019 was non-compliance with the requirements of the Project Impact Assessment with Measurement and Verification method. Non-compliance with the co-payment requirement under the Commercial Lighting Energy Savings Formula also occurred, but there were noticeably fewer instances than in previous years. These issues are discussed further in Section 4.2.1.

All material instances of non-compliance were resolved, but we continue to monitor the reasons for non-compliance and compliance trends that may indicate a risk to the scheme's integrity. We continually review our systems and processes to ensure they remain robust and flexible and enable us to readily identify and respond to compliance issues.

Box 4.1 Accredited Certificate Provider obligations

An Accredited Certificate Provider's key obligations include complying with:

- The requirements of the *Electricity Supply Act 1995* (Act), the *Electricity Supply (General) Regulation 2014* and the *Energy Savings Scheme Rule of 2009*
- The conditions of accreditation set out in its Accreditation Notice, such as engaging an auditor to undertake the audit of its certificate creation and record keeping.

The Act sets out offences relating to non-compliance with these obligations, including:

- Improperly creating certificates (clause 36 of Schedule 4A)
- Contravening the conditions of accreditation (clause 41 of Schedule 4A)
- Obstructing the Scheme Administrator (clause 60 of Schedule 4A)
- Supplying false or misleading information (clause 61 of Schedule 4A).

4.1 Audits of Accredited Certificate Providers

Audits of Accredited Certificate Providers are a key mechanism used to manage compliance (Box 4.2). We use a combination of pre-registration and post-registration audits to provide assurance that certificates have been or will be created in accordance with the legislation.

In 2019 the Audit Services Panel undertook 145 audits of Accredited Certificate Providers, covering 74 accreditations. The number of audits conducted continues to increase each year. Table 4.2 provides a breakdown of the number and type of audits completed.

Table 4.2 Audits of Accredited Certificate Providers

	2015	2016	2017	2018	2019
Post-registration – volumetric	36	43	47	60	**75**
Post-registration – periodic	26	20	20	15	**12**
Post-registration – spot	3	3	0	0	**2**
Pre-registration	18	23	40	55	**54**
Record keeping	0	3	2	1	**2**
Total number of audits	**83**	**92**	**109**	**131**	**145**

Box 4.2 How we manage Accredited Certificate Providers' compliance

When we accredit an organisation as an Accredited Certificate Provider, we impose audit and reporting requirements as part of the conditions of accreditation. We determine these requirements using a risk-based approach and with reference to our Accredited Certificate Provider Compliance Guide.[a]

Auditors perform a regulatory role on behalf of IPART and conduct audits in accordance with IPART's directions.

We typically require post-registration audits, which occur after the certificates have been created. However, where we consider the risk of improper creation is higher (eg, where the Accredited Certificate Provider has had significant instances of non-compliance, or has no compliance history), we may require pre-registration audits. These audits must be completed (with a satisfactory result) before the Accredited Certificate Provider can register (and trade) certificates.

We also require the Accredited Certificate Provider to enter into a set-aside undertaking[b] to mitigate the risk of improperly created certificates entering the market. In general, the undertaking requires the Accredited Certificate Provider to:

- Withhold from trade a portion of the certificates it creates[c] until an audit is completed
- Forfeit certificates that it has withheld from trade to address any improper creation identified by an audit.

We can also require, by order, that an Accredited Certificate Provider forfeit certificates for non-compliance. We may also amend, suspend or cancel accreditations, and issue penalty notices in certain circumstances.

a IPART, Auditing Requirements, https://www.ess.nsw.gov.au/Accredited-Certificate-Providers/Operating-as-an-ACP/Auditing-requirements.

b Prior to the introduction in 2016 of mandatory set-aside undertakings under clause 40 of the Regulation, we requested the Accredited Certificate Provider to enter into a voluntary set-aside deed, which had the same requirements.

c Typically, the portion to be set-aside depends on the risk rating of the accreditation and reduces to zero after three successive audits with no material quantitative error.

4.2 Accredited Certificate Providers' performance

In 2019 we identified 67 instances of non-compliance by Accredited Certificate Providers. Most instances were due to improper creation of certificates, which is consistent with previous years (Table 4.3).

Table 4.3 Non-compliance by Accredited Certificate Providers

Type of non-compliance[a]	2015	2016	2017	2018	2019
Improper creation of certificates (clause 36 of Schedule 4A to the Act)	39	36	49	51	**63**
Failure to meet record keeping requirements (clause 46 of the Regulation)[b]	-	5	4	2	**2**
Failure to engage an auditor by the required deadline (clause 41 of Schedule 4A to the Act)	4	6	4	0	**2**
Failure to meet other Accreditation Notice conditions (clause 41 of Schedule 4A to the Act)	1	0	2	0	**0**
Total	**44**	**47**	**59**	**53**	**67**

a The statistics provided in this table reflect decisions made by the Scheme Administrator.

b This category of non-compliance was first reported in 2016.

We identified 63 instances of improper creation of certificates in 2019, involving 69,454 certificates of various vintages. These improperly created certificates are equivalent to 1.4% of all certificates created from 2019 activities. Seven of these instances were material,[23] and accounted for 62% of the total number of improperly created certificates (Table 4.4). Typical reasons for improper creation in 2019 are outlined in Section 4.2.1.

Table 4.4 Improper creation of certificates identified in 2019[a]

Type of error and means of identification	Number of instances[b]	Certificates improperly created
Material improper creation identified by audit	7	43,206
Non-material improper creation identified by audit	54	20,537
Improper creation identified by other means	2	5,711
Total	**63**	**69,454**

a Improper creation of certificates identified in 2019 involved certificates of various vintages.

b An audit or review that identifies improper creation is reported as a single instance. An instance may include multiple cases of improper creation (eg, an audit might identify multiple projects with instances of improper creation however it is reported as only one instance).

Both the number of instances of non-compliance and the number of certificates improperly created were higher than in 2018. In 2018 we identified 38,883 certificates (of various vintages) that had been improperly created, and recovered all but 18,281 of them. In 2019 we took a range of actions to recover the improperly created certificates (discussed further in Section 4.2.2).

4.2.1 Reasons for improper creation

Typical reasons for non-compliance included Accredited Certificate Providers:

- Not meeting the requirements of the method used to calculate the energy savings, which most commonly involved:
  - failing to meet some of the key requirements under the Project Impact Assessment with Measurement and Verification method — for example, by selecting inappropriate measurement periods (Box 4.3), site boundaries and independent variables, or for including ineligible activities within the measurement boundary
  - failing to meet the co-payment requirement under the Commercial Lighting Energy Savings Formula method
- Not providing sufficient or consistent evidence to support claims associated with certificate creation (including modifying evidence)
- Creating certificates before the project's implementation date or before accreditation
- Not being nominated as the energy saver on the implementation date (Box 4.4)
- Creating certificates from energy savings that were the result of a reduction in production or service levels
- Creating certificates for equipment that had not been accepted for use.

23 Improper creation is considered material if the number of improperly created certificates exceeds 5% of the certificates audited.

Box 4.3 Requirement for selecting the measurement period – Project Impact Assessment with Measurement and Verification

Clause 7A.5(f1) of the *Energy Savings Scheme Rule of 2009* specifies that an Accredited Certificate Provider creating certificates under the Project Impact Assessment with Measurement and Verification method must ensure that the measurement period includes any time periods during which independent variables may reasonably be expected to lead to the implementation increasing electricity consumption or gas consumption or both.

We identified instances of non-compliance with this requirement in 2019. In most cases non-compliance relates to measurement periods where energy consumption is subject to seasonal variation. For example, for heating, ventilation and air conditioning activities some Accredited Certificate Providers were not including summer months within the measurement period. This approach is generally not acceptable because electricity consumption is expected to increase in summer due to the increasing load on air-conditioners resulting from increasing ambient temperatures.

For activities with seasonal variation, a 12-month measurement period is recommended. If an Accredited Certificate Provider elects to use less than 12 months of data, they must demonstrate that the shorter period represents one complete operating cycle for the relevant end user equipment.

Further guidance is provided in *ESS Notice 04/2020 PIAM&V Method Requirements*.

Box 4.4 Requirement to be nominated as energy saver at the implementation date

Clause 6.2(a) of the *Energy Savings Scheme Rule of 2009* (ESS Rule) specifies that an Accredited Certificate Provider may only create certificates in respect of energy savings for an implementation where the Accredited Certificate Provider is the energy saver for the energy savings as at the implementation date. The ESS Rule defines the energy saver as either:

(a) The person defined as the energy saver in the relevant calculation method, or

(b) The person nominated to be the energy saver by the person in (a) above provided that the nomination has been made in a form and manner approved by the Scheme Administrator.

The purpose of the clause is to support the principle of additionality. That is, the energy savings for which the Energy Savings Scheme (ESS) provides a financial incentive should be savings that would not have occurred in the absence of the ESS. By requiring the Accredited Certificate Provider to be the energy saver prior to the implementation date, this clause is intended to prevent Accredited Certificate Providers from claiming energy savings and creating certificates for activities undertaken prior to their involvement.

4.2.2 Material instances of improper creation identified by audit

Through post-registration audits, we identified seven material instances of improper creation involving seven Accredited Certificate Providers (Table 4.5). Together, these instances resulted in the improper creation of 43,206 certificates.

Table 4.5 Material instances of improper creation identified by audit

Accredited Certificate Provider	Accreditation method	Improperly created certificates	Error rate (%)	Certificate forfeiture
B & G Green Trading Pty Ltd (trading as Aussie Greenmarks)	Home Energy Efficiency Retrofits	858	8.8	858
EC Focus Pty Ltd	Project Impact Assessment with Measurement and Verification	14,296	66.9	1,568
Energy & Carbon Solutions Pty Ltd	Commercial Lighting Energy Savings Formula	3,911	40.0	1,956
ERM Power Engineering Pty Ltd	Project Impact Assessment method	15,997	32.2	0
National Carbon Bank of Australia Pty Ltd	Project Impact Assessment with Measurement and Verification	829	8.4	829
Trade In Green Pty Ltd	Commercial Lighting Energy Savings Formula	2,304	9.7	2,304
Wattly Pty Ltd	Commercial Lighting Energy Savings Formula	4,959	14.0	4,959

In some cases, the number of certificates forfeited is less than the number of certificates improperly created. In these instances we allowed recalculation of certificates or accounted for other mitigating factors when considering whether forfeiture of certificates was required.

For both EC Focus Pty Ltd (**EC Focus**) and ERM Power Engineering Pty Ltd (**ERM Power Engineering**), a number of the improperly created certificates resulted from incorrect application of the measurement period (Box 4.3). In both instances, we agreed to allow recalculation of certificates based on an appropriate measurement period, and accept the validity of the recalculated certificates subject to verification by audit. At the time of writing, we have:

- Accepted revised calculations from EC Focus, as verified by an auditor, and allowed voluntary forfeit of the resulting 366 certificates improperly created
- Accepted ERM Power Engineering's proposed approach to recalculate the certificates, with the recalculations to be verified at audit, and to forfeit any certificates improperly created.

EC Focus also improperly created certificates for an implementation for which it was not nominated as the energy saver before the implementation date (Box 4.4). EC Focus agreed to forfeit all of the 1,202 certificates improperly created from this implementation.

Energy & Carbon Solutions Pty Ltd (**Energy & Carbon Solutions**) improperly created certificates relating to one implementation where the auditor could not verify evidence that the implementation occurred before certificate registration. We required Energy & Carbon Solutions to surrender all the improperly created certificates, and allowed the surrender to take place in instalments. The remaining 1,955 improperly created certificates are due to be forfeited in August 2020.

4.2.3 Instances of improper creation identified by other means

We identified one instance of improper creation where the Scheme Administrator received complaints from three residential owners regarding work completed under the Home Energy Efficiency Retrofits accreditation of an Accredited Certificate Provider. The Accredited Certificate Provider subsequently forfeited the 14 improperly created certificates.

We identified a second instance of improper creation through our review of Measurement and Verification Professional performance. We found certificates had been created based on inappropriate measurement periods and independent variables, and were not in accordance with the Project Impact Assessment with Measurement and Verification method requirements of the ESS Rule. We agreed to allow the calculations to be revised, and the Accredited Certificate Provider subsequently agreed to forfeit 5,697 improperly created certificates. The remaining 1,846 certificates were accepted as eligible and calculated in accordance with the ESS Rule.

4.2.4 Other non-compliance due to failure to meet other obligations

We identified two material instances where Accredited Certificate Providers failed to keep records in accordance with the requirements set out in the Act, Regulation and their conditions of accreditation. In each instance, we required the Accredited Certificate Provider to detail the steps it would undertake to rectify the issue, and that its next audit examine whether it had implemented these actions.

We also identified two material instances where Accredited Certificate Providers failed to engage an auditor by the required deadline. In one instance we cancelled the Accredited Certificate Provider's accreditation for breach of their accreditation conditions. In the other instance the Accredited Certificate Provider had gone into administration. We suspended the accreditation for 12 months to allow the administrator to determine the financial position of the company.

4.2.5 Material errors identified by pre-registration audit

Pre-registration audits may be required where the risk of improper creation is considered high or where compliance issues have been identified (Box 4.2). Pre-registration audits are conducted prior to certificates being registered, reducing the likelihood of improper certificate creation, protecting the integrity of the scheme.

In 12 pre-registration audits, we identified material errors in the number of certificates the Accredited Certificate Provider proposed to create, which involved 75,311 certificates. As a result, we avoided the improper creation of these certificates, demonstrating the effectiveness of pre-registration audits as a tool for mitigating improper creation.

4.3 Actions taken to address non-compliance

We took enforcement action and resolved several instances of non-compliance

We address instances of non-compliance through various actions. In some instances, we impose stricter accreditation conditions, such as requiring pre-registration audits of proposed certificate creation, or reducing the number of certificates that can be registered before an audit is required. In cases of major non-compliance, we may refer the matter to an enforcement officer to consider whether enforcement action is required.

In 2019 we took enforcement action and resolved several instances of non-compliance including:

- We issued EC Focus with a $20,000 fine on 11 September 2019 for the improper creation of 1,202 certificates resulting from a failure to comply with the requirement under clause 6.2 of the ESS Rule that an Accredited Certificate Provider can only create certificates where it is properly nominated as the energy saver before the implementation date (Box 4.4). The offence was considered sufficiently serious to warrant issue of a penalty notice. EC Focus paid the fine on 18 September 2019. We amended EC Focus's conditions of accreditation to require one pre-registration audit, reduce the number of certificates it can create before audit, and insert a special condition relating to the provision of nomination forms.
- We issued a caution to an Accredited Certificate Provider for the improper creation of certificates also resulting from a failure to satisfy the requirements of clause 6.2 of the ESS Rule (Box 4.4). In this instance, we issued a caution rather than a penalty notice due to mitigating circumstances, including a high degree of cooperation with the Scheme Administrator.
- We issued an order requiring Energy & Carbon Solutions to surrender 3,911 improperly created certificates, and amended its conditions of accreditation to require pre-registration audit of certificates, where the auditor was unable to verify evidence that the implementation occurred before certificate registration.

4.4 Emerging compliance issues

In 2018 we identified emerging non-compliance issues involving the Commercial Lighting Energy Savings Formula and Project Impact Assessment with Measurement and Verification methods. In 2019 we continued to see non-compliance relating to these methods and started to identify instances of non-compliance related to the increasing uptake of the Home Energy Efficiency Retrofits method.

While in most cases the instances of improper creation were not material and overall the extent of non-compliance was low – 1.4% of all certificates created in 2019 –we observed the following trends:

- More than three quarters of the post-registration audits of Home Energy Efficiency Retrofits accreditations returned findings of improper certificate creation. While the total number of improperly created certificates from these accreditations represents only 7% of the total number of improperly created certificates, 38% of the instances of improper certificate creation involved Home Energy Efficiency Retrofits accreditations.
- 55% of improperly created certificates related to Project Impact Assessment method or Project Impact Assessment with Measurement and Verification accreditations (38,340 certificates).
- Improper certificate creation relating to the Commercial Lighting Energy Savings Formula method remains an issue, with 73% of post-registration audits of these accreditations including findings of improper certificate creation.
- Careless or opportunistic modification of records, such as nomination forms, is an ongoing issue that seems to be occurring as a result of increased digitisation of records.
- Some Accredited Certificate Providers are attempting to devolve accountability to third parties, despite being responsible for the conduct of their representatives and contractors.

Section 4.2.1 details the principle reasons for non-compliance under the methods.

In response to these emerging compliance issues we:

- Increased guidance and other compliance activity associated with the Home Energy Efficiency Retrofits method to support the increasing uptake of the method
- Increased guidance and other compliance activity associated with the Project Impact Assessment with Measurement and Verification method
- Continued to focus on identifying careless or opportunistic modification of records
- Increased our focus on compliance activity relating to Accredited Certificate Providers attempting to devolve accountability to third parties.

Our focus on these issues is continuing in 2020.

5 Scheme development

In our role as Scheme Administrator, it is important that we continue to monitor emerging trends and identify opportunities for improvement, as well as perform our core administrative functions (Section 6). By monitoring emerging trends we are able to take a pre-emptive, rather than reactive, approach to compliance and identify areas where the scheme needs to evolve to remain fit for purpose and continue to deliver on its legislative objectives.

The ESS will be expanding as part of the new Energy Security Safeguard

Release of the NSW Electricity Strategy (including the Energy Security Safeguard) and the five-yearly statutory review of the ESS reinforces the need for the ESS to monitor trends in order to respond to market changes. The NSW Electricity Strategy, and announcement of the Energy Security Safeguard, foreshadows a period of major reform for the ESS, and provides an opportunity for us to work closely with policy makers and provide advice regarding scheme design, scheme risks and opportunities for improvement.

In 2018 we identified several emerging issues and opportunities to improve the scheme's administration, helping us set priorities for 2019. By improving scheme efficiency and increasing our capacity, we were able to balance our core administrative functions with more focused development projects to further improve the efficient operation of the scheme.

Over the past two years the complexities of the Project Impact Assessment with Measurement and Verification method have become increasingly apparent. In 2019 we worked with policy makers to strengthen and simplify the requirements under this method as part of the 2019 Rule change process. In response to the policy changes, we developed new guidance material to improve stakeholder understanding, capability and compliance. Engaging with stakeholders was a major focus of this work.

Engaging with stakeholders is important to improve compliance and the effectiveness of the scheme, and continual improvement of stakeholder communications and engagement remains a high priority. We have committed to a program of work which we started in the second half of 2019 to improve our guidance material and ensure it is targeted to relevant stakeholders, and to increase scheme efficiency for the benefit of stakeholders.

5.1 ESS statutory review

The five-yearly statutory review of the ESS commenced in 2019.[24] As part of this review, we recommended enhancements to the statutory framework, such as expanding existing powers and adding a limited number of new powers and requirements. We consider these enhancements are essential for the enforceability of the ESS and critical for the ongoing integrity of the scheme.

Some of these recommendations were captured in the consultation paper[25] released in April 2020 to seek feedback on the NSW Government's proposed Energy Security Safeguard (Section 5.2).

The Minister released the statutory review draft report[26] in April 2020. The report found:

- The ESS continues to meet the objectives of the scheme
- The objectives of the scheme continue to remain valid
- The broad scheme design remains appropriate for delivering the scheme objectives.

Consultation on the draft report closed on 20 May 2020.

5.2 Energy Security Safeguard

The NSW Electricity Strategy was released on 22 November 2019.[27] The Strategy aims to improve the efficiency and competitiveness of the NSW electricity market, and encourage investment in new price-reducing generation and energy saving technology. The Strategy sets out 10 actions to support a competitive and low-cost energy market, and deliver more resilient electricity supplies.

A key action is extending and expanding the ESS under a new name, the Energy Security Safeguard, to include:

- An energy efficiency scheme that will run to 2050, include more ambitious energy savings targets, and support technologies that reduce the consumption of electricity or gas from the wholesale market
- A new demand reduction scheme to support technologies that can shift demand away from peak periods.

Announcement of the Energy Security Safeguard provides us with an opportunity to work closely with policy makers and other agencies to draw on our knowledge and experience in scheme design and regulatory compliance.

---

24 Clause 77 of Schedule 4A to the Act requires the Minister to review the operation of the ESS to determine whether the policy objectives of the scheme remain valid and whether the terms of Part 1 of Schedule 4A to the Act remain appropriate to securing those objectives.

25 Department of Planning, Industry & Environment, *Energy security target and safeguard: Consultation Paper*, 2020.

26 Department of Planning, Industry & Environment, *NSW Energy Savings Scheme – Draft Statutory Review Report*, 2020.

27 Department of Planning Industry & Environment, *NSW Electricity Strategy*, 2019.

5.3 Amendments to the ESS Rule

The NSW Government has committed to regularly updating the ESS Rule. Updates are managed by the NSW Department of Planning, Industry & Environment, and are intended to incorporate stakeholder feedback, complement changes to building and equipment standards, incorporate new energy savings methods and maintain the effectiveness and integrity of the ESS Rule.

No changes to the ESS Rule became effective in 2019, but amendments to the ESS Rule were made during 2019, that became effective on 30 March 2020. These revisions involved changes to the Project Impact Assessment with Measurement & Verification, NABERS baseline, Sales of New Appliances, Commercial Lighting Energy Savings Formula, Home Energy Efficiency Retrofits and Installation of High Efficiency Appliances for Businesses methods.

5.4 Actions to improve ESS administration

We are committed to identifying aspects of the scheme we can improve to maintain the integrity of the scheme, strengthen our ability to manage compliance, and improve scheme administration efficiency. In 2018 we identified the complexity of the Project Impact Assessment with Measurement and Verification method as an emerging compliance issue. We also acknowledged the need to empower stakeholders by improving their understanding of the ESS legislation and requirements, to help them to comply with the legislative framework.

In 2019 we responded to these opportunities to improve the scheme, undertaking targeted consultation to improve the Project Impact Assessment with Measurement and Verification method requirements and commencing a focused program of work to update our stakeholder guidance material.

5.4.1 Consultation on method requirements

In 2018 we identified several emerging issues relating to the complexity of the Project Impact Assessment with Measurement and Verification method. In 2019 we continued to identify non-compliance with the method requirements, resulting in significant improper certificate creation and presenting a risk to the scheme's integrity. Requests for additional guidance from Accredited Certificate Providers, auditors and Measurement and Verification Professionals also increased.

In response to this issue, draft provisions for the Scheme Administrator to publish requirements for the Project Impact Assessment with Measurement and Verification method, which Accredited Certificate Providers would be bound to follow, were included in the

proposed 2019 ESS Rule change. This presented an opportunity to provide upfront clarity to stakeholders on the appropriate approach to implementing the method.

In the second half of 2019 we conducted a five-week targeted consultation to review key issues being considered for the Project Impact Assessment with Measurement and Verification method requirements. This included a consultation session facilitated by the Chair of the ESS Committee which was held following the annual stakeholder forum. We amended the draft method requirements in response to the feedback received from the consultation session and written submissions.

The requirements were published on 21 February 2020, and became effective with release of the new ESS Rule that commenced on 30 March 2020.

We expect publication of the Project Impact Assessment with Measurement and Verification method requirements will:

- Provide greater certainty for Accredited Certificate Providers, and assist them in understanding and meeting their compliance obligations, leading to improved compliance outcomes
- Reduce the time taken to complete audits, because Accredited Certificate Providers, Measurement and Verification Professionals and auditors will all be referring to a single set of requirements.

5.4.2 Stakeholder communication and engagement

As part of our ongoing commitment to enhancing our stakeholder communications and engagement, we began updating our public facing guidance material. We initiated this project after identifying opportunities for improvement, and in response to stakeholder feedback.

We intend to update our guidance material to clarify existing requirements, eliminate content duplication and improve accessibility, readability and user-friendliness with the aim of:

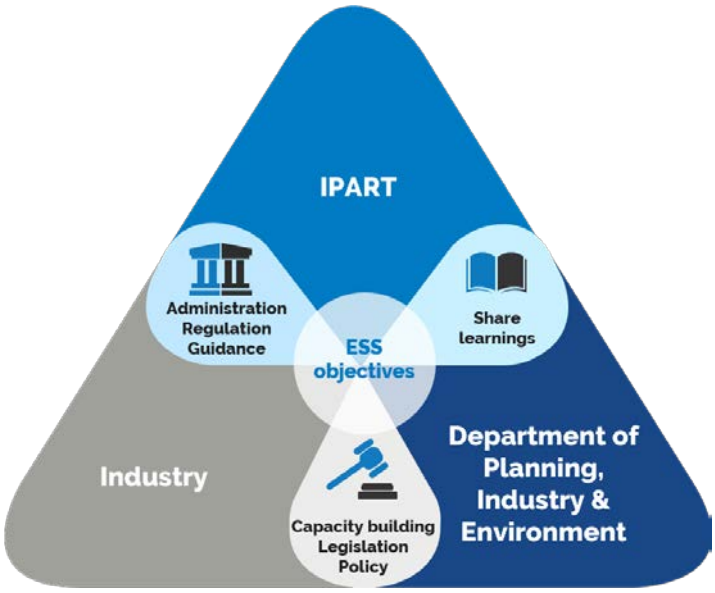
- Improving compliance by Accredited Certificate Providers and Scheme Participants
- Reducing transaction and administration costs for Accredited Certificate Providers and Scheme Participants
- Increasing regulatory certainty for Accredited Certificate Providers and Scheme Participants
- Improving our response and assessment times.

We also continue to improve and update our systems (such as the ESS Portal), update and publish guidance and fact sheets (Section 6.2), provide online workshops, and publish our quarterly newsletter.

6 Scheme administration

In our roles as Scheme Administrator and Scheme Regulator, we aim to meet the objectives of the ESS by building a compliance culture and ensuring the integrity of the ESS through compliance. Our administrative function involves facilitating the day-to-day operation of a scheme that is legally complex and changes frequently. Our regulation and compliance function involves dealing with and resolving compliance issues. To this end, we work with all stakeholders who each play a role in delivering the objectives of the ESS (Figure 6.1).

Figure 6.1 ESS stakeholder relationships



We strive to administer the ESS efficiently and effectively, and to maintain the integrity of the scheme by ensuring participants understand and comply with the ESS requirements. To achieve this, we:

- Apply a risk-based approach to our administration and regulation of the ESS
- Publish detailed guidance about the ESS requirements, present online workshops about specific aspects of the ESS, and hold in-person stakeholder forums and workshops
- Use various online tools to improve our administrative efficiency and enhance the user experience of our stakeholders
- Maintain robust systems and processes to minimise the risk of non-compliance with the ESS requirements.

6.1 Core administrative tasks

In addition to managing compliance, our day-to-day administration of the scheme centres largely on assessing applications, managing Accredited Certificate Provider accreditations, and managing the membership of our Audit Services Panel and Measurement and Verification Professionals.

6.1.1 Administration of Accredited Certificate Provider accreditations

We approved 13 applications for new accreditation in 2019, with the number of applications declining in the past two years (Table 6.1). Since 2017 there have been no new accreditations under the Metered Baseline method, with most applications being under the Commercial Lighting Energy Savings Formula and Home Energy Efficiency Retrofits methods (Figure 6.2).

In 2019 there were nine new accreditations under the Home Energy Efficiency Retrofits method and four under the Commercial Lighting Energy Savings Formula method (Figure 6.2). The increase in applications for the Home Energy Efficiency Retrofits method is consistent with the increasing uptake of this activity during 2019. Almost all the activities undertaken under the Home Energy Efficiency Retrofits method related to lighting upgrades.

We approved 53 amendments to the conditions of existing accreditations during 2019 (Table 6.1). Most of the amendments were requested by Accredited Certificate Providers and related to changing the limit on the number of certificates that can be created; expanding or changing the activity description; or changing the audit requirement or audit due date. In some cases we initiated the amendment in response to a non-compliance or identified risk to the scheme.

We approved eight cancellations of accreditation during 2019. Most were requested by the Accredited Certificate Provider in response to our ongoing process of identifying and actively managing accreditations that were either inactive, or no longer eligible to create certificates. One accreditation was cancelled because we were satisfied the Accredited Certificate Provider had breached its accreditation conditions in failing to conduct an audit (Section 4.2.4).

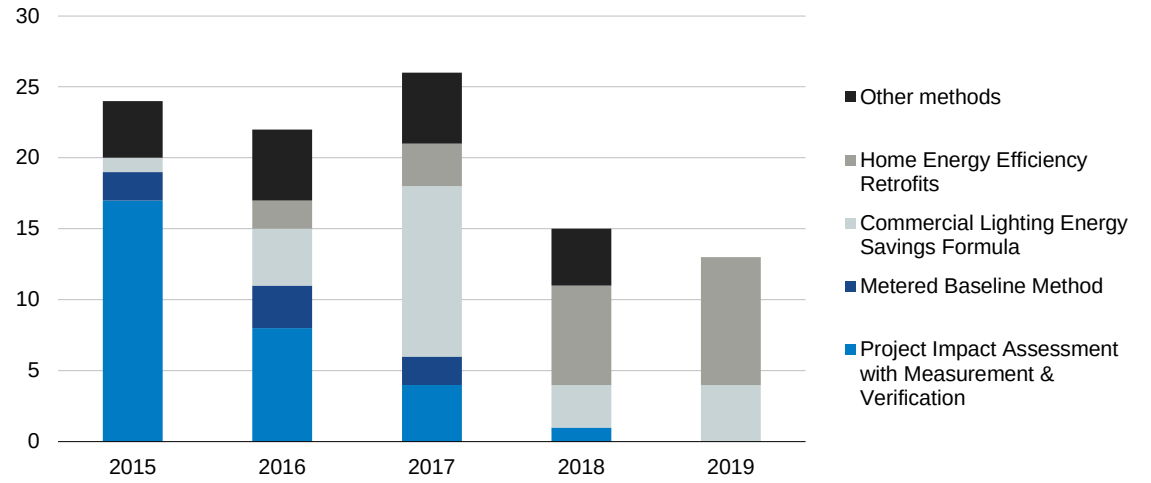
There were a total of 177 accreditations at the end of the year.

Table 6.1 Administration of Accredited Certificate Provider accreditations

	2015	2016	2017	2018	2019
Number of applications for accreditation approved	24	22	26	15	13
Number of applications for accreditation refused	0	0	0	1	0
Number of amendments to conditions of accreditation	90	96	64	45	53
Number of cancellations of accreditation	19	51	22	18	8
Number of accreditations as at 31 December	200	171	175	172	177
Average number of days to process applications for accreditation[a]	87	92	118	139	171

[a] Processing times include days taken by the applicant to respond to requests for information.

Figure 6.2 New accreditations by calculation method, 2015 to 2019



The average time for processing applications for accreditation increased in 2019 to 171 calendar days (Table 6.1). In 2019 competing priorities delayed our assessment of applications, contributing to the increased processing times. As part of our work to update our public facing guidance material (Section 5.4.2), we began work to streamline the application process by removing inefficiencies, reducing the volume of documentation required to be submitted and clarifying the requirements of the application process for applicants. We recognise the importance of delivering on expected processing times and we are prioritising actions to improve timeframes in future years. We expect to see processing times for applications reduce in 2020 as the new process is implemented.

The time taken to process an application is impacted by a range of factors, including the quality and/or complexity of the application, requests by the applicant for additional time to provide requested information and pending compliance issues (for example, an applicant could have an audit in progress where the outcome is likely to impact the approval of the application). Our guidelines for applications indicate that an application will typically take around three months to process (90 calendar days).

6.1.2 Approvals for emerging lighting technologies

During 2019 we received 512 applications for acceptance as emerging lighting technology products. We approved 1,401 lighting products for use in the scheme, including 113 products previously approved under the Victorian Energy Upgrades (**VEU**) program,[28] increasing the total number of approved products to 9,054 (Table 6.2). The number of applications under the Commercial Lighting Energy Savings Formula method decreased. Our average time for processing applications has remained steady in recent years.

28 We apply a streamlined application process for products that are already approved under the VEU program.

Table 6.2 Applications for acceptance of emerging lighting technologies

	Commercial Lighting Energy Savings Formula		Home Energy Efficiency Retrofits		Total
	2018	2019	2018	2019	2019
Number of applications received	667	471	37	41	512
Number of products in applications	2,000	1,332	104	112	1,444
Number of products approved[a]	1,678	1,296	90	105	1,401
Number of products accepted under the VEU program	114	113	N/A	N/A	113
Number of products accepted as at 31 December	7,495	8,791	158	263	9,054
Average number of days to process applications	14	13	19	18	14

a Applications may have been cancelled, withdrawn or under assessment as at 31 December.

6.1.3 Approvals for membership of the Audit Services Panel

We approved one new lead auditor for the Audit Services Panel in 2019, increasing the number of lead auditors to 30 and the number of firms to 17. The number of auditors in our specialist category for audits under the Project Impact Assessment with Measurement and Verification method remained at six (Table 6.3).

Table 6.3 Applications for membership of the Audit Services Panel

	2015	2016	2017	2018	2019
Number of lead auditors approved	2	3	0	0	1
Number of lead auditors approved for PIAM&V	N/A	7	0	0	0
Number of lead auditors removed	1	1	1	4	0
Number of lead auditors removed for PIAM&V	0	0	1	0	0
Number of lead auditors as at 31 December	31	33	32	29	30
Number of lead auditors as at 31 December for PIAM&V	N/A	7	6	6	6
Number of auditor firms as at 31 December	16	17	16	16	17

6.1.4 Approval and review of Measurement and Verification Professionals

In 2019 we approved one new Measurement and Verification Professional and withdrew the approval of two others, taking the total number of approved Measurement and Verification Professionals to 12 (Table 6.4).

Under the ESS Rule, the Scheme Administrator must be satisfied the Measurement and Verification Professional continues to meet the criteria of the ESS Rule. Our extensive review of the performance of all approved Measurement and Verification Professionals identified two persons who no longer satisfied the criteria, and we withdrew their approval based on unsatisfactory performance.

Table 6.4 Applications for approval as a Measurement and Verification Professional

	2015	2016	2017	2018	2019
Approvals	N/A	8	3	2	1
Withdrawal of approval	N/A	0	0	0	2
Number of Measurement and Verification Professionals as at 31 December	N/A	8	11	13	12

6.1.5 Updating guidance and processes to reflect ESS Rule changes

We developed new evidence requirements for some methods and made updates to our guidance documents in response to amendments to the ESS Rule that were largely undertaken during 2019 (Section 5.3). We also published guidance material, including fact sheets for each calculation method, to help stakeholders understand how the changes will impact them. Transitional arrangements, and implications they may have for certificate creation, were communicated to stakeholders through a fact sheet published in March 2020.

6.1.6 Engagement with other regulators

We continued to work with regulators in other states and territories and the Commonwealth Government to align the operation of the ESS with other energy efficiency schemes, reduce red tape for participating businesses, and address common compliance issues. For example, we continued:

- Accepting for use in the ESS most categories of lighting products approved under the VEU program (the VEU program also recognises ESS accepted products)
- Considering an organisation's compliance performance in the VEU program and the Emissions Reduction Fund when it applies to be accredited under the ESS.

6.2 Improvements to systems and processes

We continually review and refine our systems and processes, reflecting our commitment to maintaining the integrity of the ESS. In 2019 we also prioritised stakeholder communication and engagement in making these improvements, recognising that improving stakeholder engagement and understanding of the scheme will lead to better compliance outcomes. Scheme administration efficiency is a key concern of some stakeholders and we have taken steps to improve the efficiency of key business processes.

6.2.1 Enhancing stakeholder guidance

We are focused on improving stakeholder engagement and communication

Following consultation with stakeholders in 2019, we released a detailed scope of works (**DSW**) submission form and associated list of sites to standardise the checks undertaken for audits.[29] The list of sites also includes new sampling guidelines for determining sample sizes for audits involving sampling. These templates standardised the process for submitting DSWs, reducing processing times, improving consistency of the audit approach, and clarifying the expectations of how auditors should perform audit checks against certain requirements.

We issued guidance on recommended approaches for top up certificate creation under the Project Impact Assessment method and Project Impact Assessment Measurement and Verification method to reduce the risk of improper certificate creation. We also updated the minimum requirements of conduct in consultation with stakeholders, to reflect changes to the ESS Rule in 2018 and improve clarity for stakeholders.[30]

We issued guidance to clarify the evidence requirements relating to the use of certificates of compliance for electrical work (**CCEWs**) and aligned the signature requirements with NSW Fair Trading. These changes followed ongoing compliance issues with CCEWs, which ranged from omission of signatures to what appeared to be deliberate falsification.

In response to stakeholder feedback, we also released two new fact sheets that explained how to submit an enquiry on an ESS matter and how to have certain Scheme Administrator decisions reviewed.[31,32]

We are committed to a program of continual review and improvement of our published guidance and stakeholder communications, based on feedback we receive.

6.2.2 Improving stakeholder understanding of ESS legislation and requirements

While updates to guidance documents are a key part of improving stakeholder understanding of ESS legislation and requirements, we also recognise the importance of face-to-face stakeholder engagement.

29 Members of the Audit Services Panel submit DSWs for audits of the creation, or proposed creation, of certificates by an Accredited Certificate Provider.

30 The minimum requirements of conduct are a standard accreditation condition for all Accredited Certificate Providers.

31 https://www.ess.nsw.gov.au/Home/Document-Search/Fact-Sheets/How-to-make-an-enquiry-Fact-Sheet-12-December-2019

32 https://www.ess.nsw.gov.au/Home/Document-Search/Fact-Sheets/How-to-have-a-decision-reviewed-Fact-Sheet-12-December-2019

Members of the ESS Committee attended and presented at our stakeholder forum in 2019

In 2019 we held our annual stakeholder forum, which was attended by 89 people and webcast to those unable to attend. The ESS Committee attended the stakeholder forum for the first time, in response to stakeholder requests for access to decision makers.

The then Chair of the ESS Committee, Mr Ed Willett, provided stakeholders with insights into our efforts to build a compliance culture and the ESS Committee's decision making process. We also updated stakeholders about administrative improvements to the scheme, detailed recent compliance issues and clarified scheme requirements. The forum was also a valuable opportunity to receive feedback on our performance as Scheme Administrator and Scheme Regulator.

We continued to hold in-person and online workshops for existing and potential Accredited Certificate Providers and auditors to help them understand ESS requirements. We held 13 workshops during the year (two auditor workshops and 11 online workshops), with a total of 142 participants. The auditor workshops discussed the need for consistent approaches to conducting audits, and the need to ensure regular communication with IPART whenever difficult issues arise. The feedback from our auditors has been that these are effective and useful meetings for all parties.

6.2.3 New delegations to increase efficiency

In September 2019 the Tribunal agreed to delegate and authorise routine Scheme Administrator and Scheme Regulator functions to the ESS General Manager. The delegations were approved by the Minister and came into effect on 29 January 2020.

The risk-based delegation of these functions allows the Tribunal and ESS Committee to redirect time and resources to matters that have more impact on scheme integrity, and where the decision making process requires more consideration and judgement. This delegation also provides an opportunity to streamline our administrative processes to achieve organisational efficiencies and improve our responsiveness to regulated businesses.

6.2.4 Launching a new website

We launched a new ESS website in May 2019. The new website aims to provide a better user experience for stakeholders and aligns with the visual identity of the IPART website. A key function of the new website is a document search function providing access to all our guidance material.

Before launching the new website, we conducted user testing with external stakeholders including Accredited Certificate Providers, auditors, Scheme Participants, and other interested parties. We are continuing to refine our website in response to stakeholder feedback.

Glossary

This glossary provides a general guide to the terminology used in the ESS. It is designed to be read in conjunction with the Act, Regulation and ESS Rule. This glossary should not be relied upon as a substitute for legal advice and does not override the true definitions of these terms in the Act, Regulation or ESS Rule.

Accredited Certificate Provider	A person accredited by the Scheme Administrator to create Energy Savings Certificates relating to a Recognised Energy Saving Activity (RESA).
Act	The *Electricity Supply Act 1995,* which establishes the ESS.
Energy Saver	The person who has the right to create certificates for particular Energy Savings arising from an implementation of a RESA, as defined in the relevant calculation method of the ESS Rule.
Energy Savings	The calculated reduction in electricity consumption arising from implementation of a RESA and calculated according to the ESS Rule.
Energy Savings Certificate (ESC)	A transferable certificate under Part 1 of Schedule 4A to the Act, which is created in accordance with the ESS Rule. A certificate has a value of one notional megawatt hour.
ESS Rule	The *Energy Savings Scheme Rule of 2009* made by the Minister for Resources, Energy and Utilities, and the Arts, sets out the primary eligibility requirements, calculation methods and arrangements for the creation of Energy Savings Certificates. It is amended from time to time.
Energy Savings Shortfall	If a Scheme Participant fails to surrender enough Energy Savings Certificates to meet its Individual Energy Savings Target for the year, it has an Energy Savings Shortfall for that year and is liable to pay a penalty for each Energy Savings Certificate it has failed to surrender.
Energy Savings Target	The Energy Savings Target refers to a figure, specified in Schedule 5 of the Act, that is applied to the total Liable Acquisitions in NSW to determine each Scheme Participant's Individual Energy Savings Target for each calendar year.
Exempt Electricity Load	An Exempt Electricity Load is the electricity load used in connection with a specified activity at a corresponding location for which an exemption has been granted by the Minister under the Ministerial Order.

Implementation Date	The Implementation Date is generally the date on which the Energy Savings from the RESA commence and is defined for each calculation method in the ESS Rule.
Individual Energy Savings Target	The Individual Energy Savings Target is the value (in MWh) of energy savings that a Scheme Participant must meet each year. This target is determined by multiplying the Energy Savings Target for that year by the Scheme Participant's total liable acquisitions.
Liable Acquisition	Any purchase of electricity by a Scheme Participant that is purchased from the Market Operator, or from parties not registered with the Market Operator for supply to end users in NSW whose loads have not been listed as Exempt Electricity Loads.
Market Operator	The entity responsible for the administration and operation of the wholesale national electricity market in accordance with the National Electricity Law (currently the Australian Energy Market Operator).
Ministerial Order	The Ministerial Order is published annually, or when required, and lists all emissions intensive trade exposed industries, their location and proportion of electricity load granted an exemption (90% under the ESS).
National Australian Built Environment Rating System (NABERS)	A ratings methodology administered by the NABERS Administrator (currently the Office of Environment and Heritage), which can be used to calculate Energy Savings under the Metered Baseline method. This method can be used for new or existing buildings.
Recognised Energy Saving Activity (RESA)	A specific activity implemented by an Energy Saver that increases the efficiency of energy consumption or reduces energy consumption without reducing production or service levels.
Regulation	The *Electricity Supply (General) Regulation 2014*.
Retail Supplier	A Scheme Participant under the Energy Savings Scheme. Includes all holders of an electricity retail licence for operation in NSW.
Scheme Administrator	The body responsible for administering functions such as accrediting Accredited Certificate Providers, verifying energy saving activities and maintaining a registry of certificates. The NSW Independent Pricing and Regulatory Tribunal (IPART) is the Scheme Administrator for the Energy Savings Scheme.

Scheme Participant	A person who is required to comply with an Individual Energy Savings Target. Scheme Participants include all Retail Suppliers of electricity in NSW, any person directly supplying a customer in NSW or any person directly purchasing electricity from the Market Operator (other than a Retail Supplier).
Scheme Regulator	The body that monitors the compliance of Scheme Participants with their Individual Energy Savings Targets under the Act. The NSW Independent Pricing and Regulatory Tribunal is the Scheme Regulator for the Energy Savings Scheme.
Victorian Energy Upgrades (VEU) program	Similar to the ESS, the VEU program is a Victorian Government initiative designed to make energy efficiency improvements more affordable, contribute to the reduction of greenhouse gases, and encourage investment, employment and innovation in industries that supply energy efficiency goods and services.

A Legislative reporting requirements

The table below lists the legislative requirements that IPART must report upon to the Minister, and where this information is contained in this report.

Requirement of the Act	Clause of Schedule 4A to the Act	Section(s) in report
Scheme Regulator to report to the Minister on compliance by Scheme Participants	55(1)	1.3 and 3
Scheme Administrator to report to the Minister on compliance by Accredited Certificate Providers	57(1)	1.2 and 4
Name of each Scheme Participant and the performance of each Scheme Participant in relation to its individual energy savings target	76(2)(a)	3.2
Total number of certificates surrendered in the year to which the report relates	76(2)(b)	1.3, 2.2.3 and 3.3
Total number of certificates created in the year to which the report relates	76(2)(c)	1, 2.1 and 2.2
Number of certificates created in previous years but not yet surrendered	76(2)(c1)	2.2.4 and Figure 1.1
Assessment of the extent of any over or under supply of certificates	76(2)(c2)	2.2.4 and Figure 1.1
Estimate of actual energy savings realised in the year to which the report relates and for the next 10 years, in respect of certificates created	76(2)(d),(e)	1.1 and 2.1
Functions delegated by the Scheme Regulator or Scheme Administrator and the person or body to whom they were delegated	76(3)	1.7