



Energy Savings Scheme

What is the ESS?

The Energy Saving Scheme (ESS) was introduced on 1 July 2009 by the NSW Government to encourage greater efficiency of electricity use in NSW households, industry and commerce. It was largely created from the Demand Side Abatement Rule of the NSW Greenhouse Gas Reduction Scheme (GGAS) and will operate until the end of 2020, in parallel with the Commonwealth's Carbon Pollution Reduction Scheme.

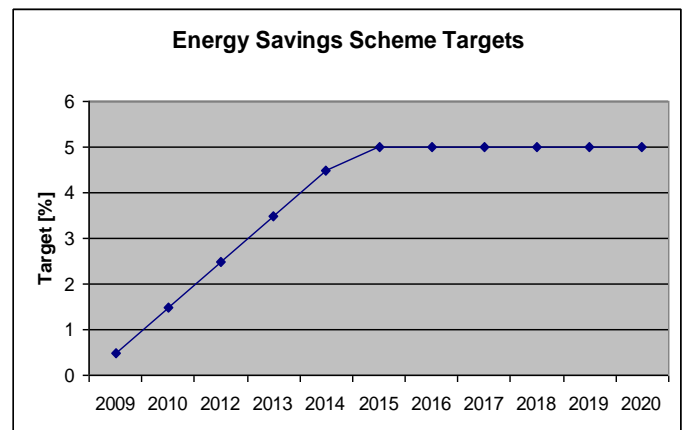
Who is liable under the ESS?

NSW electricity retailers are the principal liable parties under the ESS. Unlike the GGAS, there is no provision for large customers to opt into the scheme and manage their own liabilities. Retailers will seek to pass the cost of compliance with the Scheme to their customers.

How does the ESS work?

The ESS establishes legislated annual energy savings targets as a percentage of liable sales in each year (see chart). These targets must be met through the creation and surrender of Energy Savings Certificates (ESCs). ESCs are tradable and bankable. Retailers can obtain ESCs by delivering energy efficiency upgrades to customers directly, or by purchasing them from specialist companies or others accredited to conduct energy efficiency projects under the Scheme.

Should the retailer fail to surrender sufficient ESCs to the Scheme Regulator (IPART) to meet its target, it will be liable to a penalty of \$24.50 for each MWh of shortfall. This equates to a tax effective penalty rate of \$35/MWh of shortfall because purchase of certificates is tax deductible for retailers, but paying the penalty is not. This means that retailers would be prepared to pay up to \$35 for each certificate and, in the absence of significant trading in certificates, may seek to pass on compliance costs to their customers in the minerals industry at the higher rate.



Are there exemptions from the ESS?

The ESS legislation provides for the Minister for Energy to exempt companies that are emissions intensive and trade exposed. The overall policy intent of this provision is to mirror the Commonwealth's treatment of these industries under the Renewable Energy Target (RET) scheme. It would appear that the minerals industry will not be partially exempted under the RET.

How will exemptions work?

An interim Ministerial Order identifies companies, sites and levels of exemptions to apply for 2009. These have been based on the best guess as to which companies will be exempt under the RET. No NSW minerals industry has an exempt load for 2009. A new Order will be made for 2010, but, given the link to the RET, it is unlikely that the minerals industry will ever be granted an exemption.

Opportunities to undertake energy efficiency activities under the ESS?

The NSW minerals industry is active in reducing its greenhouse gas emissions through energy efficiency. Mining companies have identified cost-effective energy efficiency projects through the Commonwealth's Energy Efficiency Opportunities (EEO) and NSW's Energy Savings Action Plans (ESAP).

These projects can potentially be eligible ESS activities, if implemented after 1 July 2008, and accordingly, used to create ESCs. The threshold date for projects corresponds to the approximate time of the announcement of the ESS by the NSW

Government. However, ESCs can only be created for energy savings that occur after the start of the scheme (1 July 2009). The incentive to create ESCs does not apply to projects implemented earlier, as the NSW Government argues that these were commercially justified in their own right.

The value of ESCs will enhance the rate of return from energy efficiency projects, as well as reducing a company's electricity consumption. These projects can either be undertaken by the company or by a third party. For example the host company could invite a specialist energy efficiency service provider to audit its site and implement energy efficiency projects. Issues such as who pays for the improvements and how the ESCs are shared would be the subject of a commercial arrangement between the parties.

In order to participate in the Scheme, a company will have to apply for accreditation of the project through the Scheme Administrator (IPART). In the first instance, the IPART website contains many useful guides for accreditation as well as specific application forms for each method, and IPART staff are available to discuss potential eligible projects at an early stage. Once accredited, the project can create certificates as energy savings occur.

Some of the methods used by the industry to improve energy efficiency that could potentially form the basis of an eligible ESS project include:

- Process and productivity improvements
- Investment in efficient equipment
- Equipment maintenance.

What activities are eligible?

Recognised activities under the ESS are those that were commissioned after 1 July 2008 and that exceed mandatory standards or guidelines. That is, projects do not qualify if they are required to be undertaken to meet a statutory requirement. Proponents must be able to demonstrate that a project will increase the efficiency of electricity use, or reduce electricity use without reducing service levels. For example, actions such as reducing lighting levels below safe operating levels would not be eligible under the ESS. Similarly, actions to reduce output would not be eligible if for instance, electricity consumption was reduced by cutting back on production by closing down one of several production lines. Eligible projects arise from activities to reduce electricity consumption by:

- Modifying end-use equipment or its usage
- Replacing end-use equipment with more efficient equipment
- Installing new equipment that uses less electricity than other equipment of the same type and function
- Removing end-use equipment that results in reduced electricity without reduced production or service levels.

The ESS Rule identifies three methods for creating ESCs:

- Project Impact Assessment method for specific and identifiable energy efficiency projects where energy savings are small compared to the electricity use at the site, or where baseline data are highly variable or unavailable
- Metered Baseline method where improvements in electricity consumption across a plant are measured. In the minerals industry this would typically be measured per unit of production
- Deemed Energy Savings method where defined lifetime savings are deemed for standard activities including power factor correction, use of high efficiency motors and commercial lighting upgrades.

Does the ESS apply to the installation of new plants?

The installation of new plant or equipment can be eligible to create ESCs if it performs more efficiently than the lowest energy consumption of comparable "existing" equipment. "Existing" equipment is assessed against other plant having the same function, output or service in NSW, or if none exists in NSW, in Australia. If no similar plant exists in Australia, or data are not available, a benchmark would need to be agreed with the Scheme Administrator possibly taking into account international performance data.

What is an ESC worth?

Supply and demand will determine the market value of ESCs, but with the penalty set at \$24.50/MWh, they might be expected to trade in the range \$15 to \$20. Similar to the credit market under GGAS, trading will be achieved through bilateral arrangements between companies and retailers, and through a spot market. At this early stage of the ESS, only limited market activity has occurred at around \$17.

How can the NSW minerals industry participate in the ESS?

NSW mining companies have several options to participate. As their retailers will most likely aim to pass on their full costs of compliance with ESS to their customers, companies could seek to negotiate no cost pass through if the company transfers the relevant number of certificates to meet the ESS obligations of their electricity load to their retailer. These certificates could either be sourced from the market or created from the company's accredited ESS projects. Companies may also have opportunities to create more certificates than required to cover the obligations arising from its electricity load. These would be available for sale as an additional source of revenue and would be accompanied by reduced electricity bills from lower electricity consumption.

Calculation of liabilities under the ESS for electrical loads

For a customer using 100,000 MWh of electricity after 1 July 2009, the retailer will need to acquire 105,000 MWh at the relevant node using a designated distribution loss factor of 5%. Accordingly, for the first year (when the ESS target is 1%), the customer load will impose an obligation on the retailer of 105,000 x 0.01 or 1,050 MWh. This is converted to an obligation to purchase certificates by multiplying by the “energy conversion factor” of 1.01 [Schedule 5 of the Act] to give a requirement to surrender 1,060 certificates to fully cover the ESS obligation of the customer load of 100,000 MWh in 2009. The targets and obligations increase over time as indicated below.

For a general case, the liability for certificate surrender arising from a customer’s electricity load in any year is given by the following formula:

$$\text{Certificate Liability} = 0.010605 \times \text{Customer Load (MWh)} \times \text{Percentage}$$

Table 1: ESS Targets

Year	Percentage ESS Target
2009	1.0
2010	1.5
2011	2.5
2012	3.5
2013	4.5
2014 to 2020	5.0

Creating certificates under the ESS

In order for a company to create certificates it must be accredited to do so by the ESS Scheme Administrator, IPART. The company will need to determine whether the project being considered will provide sufficient value in terms of certificates created and energy cost savings to offset the costs of applying for accreditation. An alternative approach would be to seek the involvement of a third party to manage the process.

In order to apply for accreditation, a company needs to:

- Establish that the project is eligible according to the eligibility criteria
- Establish that they are contractually liable for paying the electricity bill for the load that is being reduced by the project (that is, in the language of the scheme, they are the “Energy Saver”)
- Decide which calculation method to apply (Project Impact Assessment, Metered Baseline, Default Energy Savings) as the most suitable for the circumstances
- Generate spreadsheets for the calculation of the projected number of ESCs that will be created from the project (this will need to be submitted to IPART as part of the application process)

- Develop and document proposed accurate and reliable record keeping processes and documentation appropriate for the size and scale of the project to demonstrate that claimed energy savings have occurred (this document will be submitted to IPART as part of the application process). Records are required to be retained for at least 6 years.

In considering the above points, companies should consult the more detailed information available on the IPART website and contact IPART if necessary for more detailed guidance in preparing their applications. The application must be accompanied by a non-refundable application fee of \$500. However, an accreditation may include replication of the same activity or installation of the same equipment at a number of sites operated by the company seeking accreditation.

The date of lodgement of the application (with the fee) marks the first date from which certificates can be created from the project once it is accredited by IPART. For each certificate created there is also a registration fee of \$0.70.

Glossary of Terms

- EEO:** Energy Efficiency Opportunities
- ESAPs:** Energy Savings Action Plans
- ESCs:** Energy Savings Certificates
- ESS:** Energy Savings Scheme (“the Scheme”)
- GGAS:** Greenhouse Gas Reduction Scheme
- IPART:** Scheme Administrator
- RET:** Renewable Energy Target

More information:

- Further details are available from IPART: www.ess.nsw.gov.au

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