



Professional Services.

 ecovantage

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Ecovantage was established in 2007 to support businesses and households to reduce energy use and contribute to the fight against climate change through a reduction in emissions.

Our offices in Sydney, Melbourne, Adelaide and Sunshine Coast are staffed with employees who are genuinely passionate about climate change and are dedicated to helping our customers manage carbon and energy.

With dedicated engineers, compliance officers and program managers in each state, we offer localised support to our implementation partners, which enables us to ensure comprehensive compliance within energy efficiency schemes.

Our extensive experience in the industry means we have honed our systems and processes to gain efficiencies around evidence collection and processing, allowing us to scale our activities up or down as the local markets dictate.

We work within the energy efficiency schemes in New South Wales, Victoria, South Australia and Queensland, as well as the national Renewable Energy Target scheme, Guarantee of Origin scheme, and Emission Reduction Fund, to help commercial and industrial organisations, and small to medium enterprises, access incentives for energy efficiency upgrades.

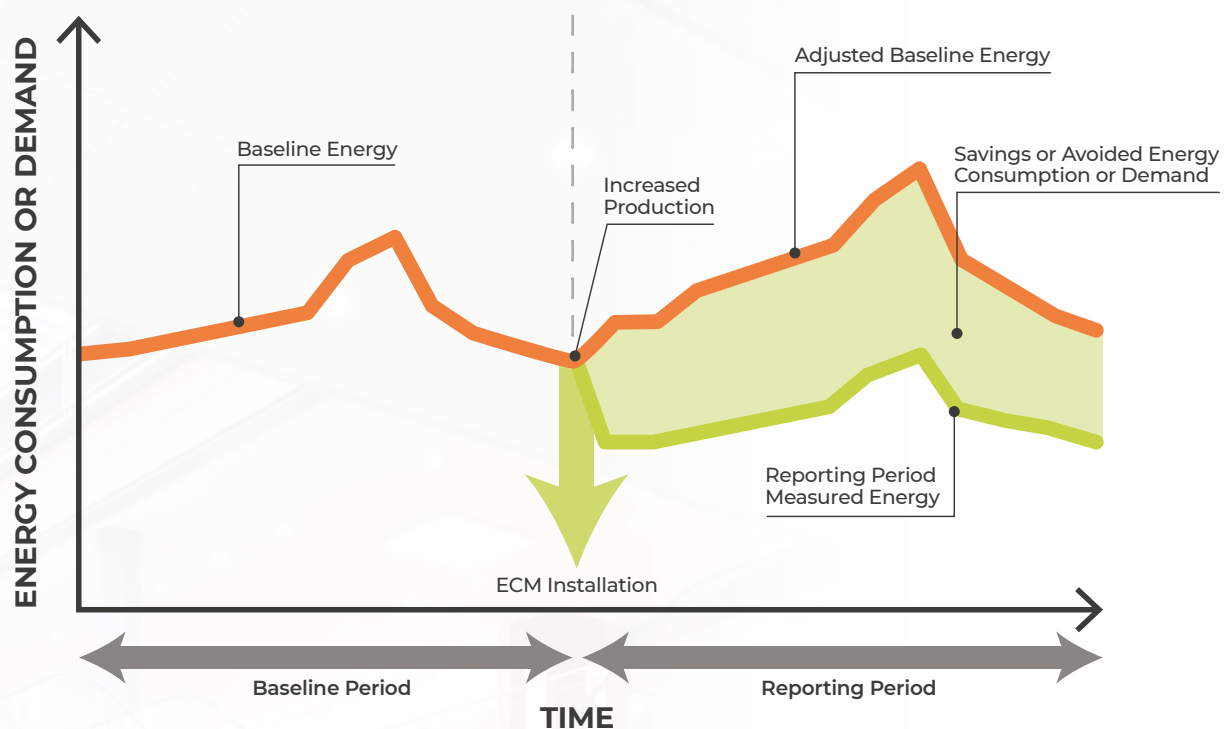
Since 2007, we have helped Australian businesses and households abate over 11 million tonnes of greenhouse gases. Our goal is to reach 20 million by 2030.



Measurement & Verification.

Measurement and Verification (M&V) is the process of planning, measuring, collecting and analysing energy consumption data before and after an upgrade to report on the savings. Savings are determined by comparing measured energy use before and after project implementation with appropriate adjustments for changes in conditions. The below graph demonstrates this.

Depending on the upgrade and the site's location, several scheme specific factors are applied. Certificates are then created based on the difference between the two measurement periods, and depending on the scheme, certificates are either awarded for every tonne of CO₂ equivalent that is saved or for every MWh that is saved.



Whereas deemed activities, such as HVAC upgrades and heat pump upgrades in Victoria and New South Wales follow a routine calculation to estimate energy savings based on the approved product and typical hours of use. Deemed activities cover routine installations that are on a small to medium scale.

M&V is designed for commercial and industrial projects where one or more of the following applies:

- The upgrade is not an approved deemed activity
- Multiple upgrades are occurring at once
- The energy savings are high compared to baseline energy use
- The upgrade involves fuel switching or bio energy use
- The upgrade is bespoke in nature.

Types of Projects.

Energy Efficiency Upgrades

- Heating, Ventilation, and Air Conditioning (HVAC)
- Commercial and Industrial Refrigeration
- Air Compressors
- Steam Boilers
- Water Boilers & Heaters
- Variable Speed Drives (VSDs)
- LED Lighting

Process Optimisation

- Building Management Systems (BMS)
- Heat Recovery
- Production/Process Improvement(s)

Fuel Switching Using Onsite Renewable Energy Generation

- Solar PV (displace grid electricity or diesel)
- Biogas (displace natural gas or LPG)
- Biomethane (displace natural gas or LPG)

How Can Your Site Harness M&V?

There are significant opportunities for your site to leverage Measurement and Verification methods for a variety of projects and upgrades.

Any implementation that will save a site energy equivalent to the listed recommended minimum savings, is eligible to create certificates under Measurement and Verification methods.

State-based schemes create 'White Certificates'. These certificates act similar to a rebate as opposed to being a verified carbon credit. The benefit of white certificate creation is that a site is able to monetise the certificates, and still claim the full benefit of the energy reduction in their carbon accounting.

The benefit of a federal scheme creating internationally recognised carbon credits, is that it lessens the financial constraint of purchasing that volume of carbon credits, plus they can account for the energy reduction. Many clients procure Australian Carbon Credit Units (ACCUs) for the purpose of surrender. The ability to provide an upgrade service that will produce ACCUs for a 7 year period is certainly an additional benefit.

Our team can assist in establishing the viability of each opportunity, both from financial and carbon perspectives.

Case Study.

930kW Solar PV, Victoria

Ecovantage was engaged by a client following the installation of two large solar arrays, with a combined capacity of approximately 930kW

The project was to measure the grid energy savings achieved through installing a solar PV system, and generate the corresponding number of Victorian Energy Efficiency Certificates (VEECs) using Measurement & Verification.



Baseline annual energy usage
6,600 MWh



Operating annual energy use
5,400 MWh



First year energy savings
1,200 MWh



Projected 10 year energy savings
12,000 MWh



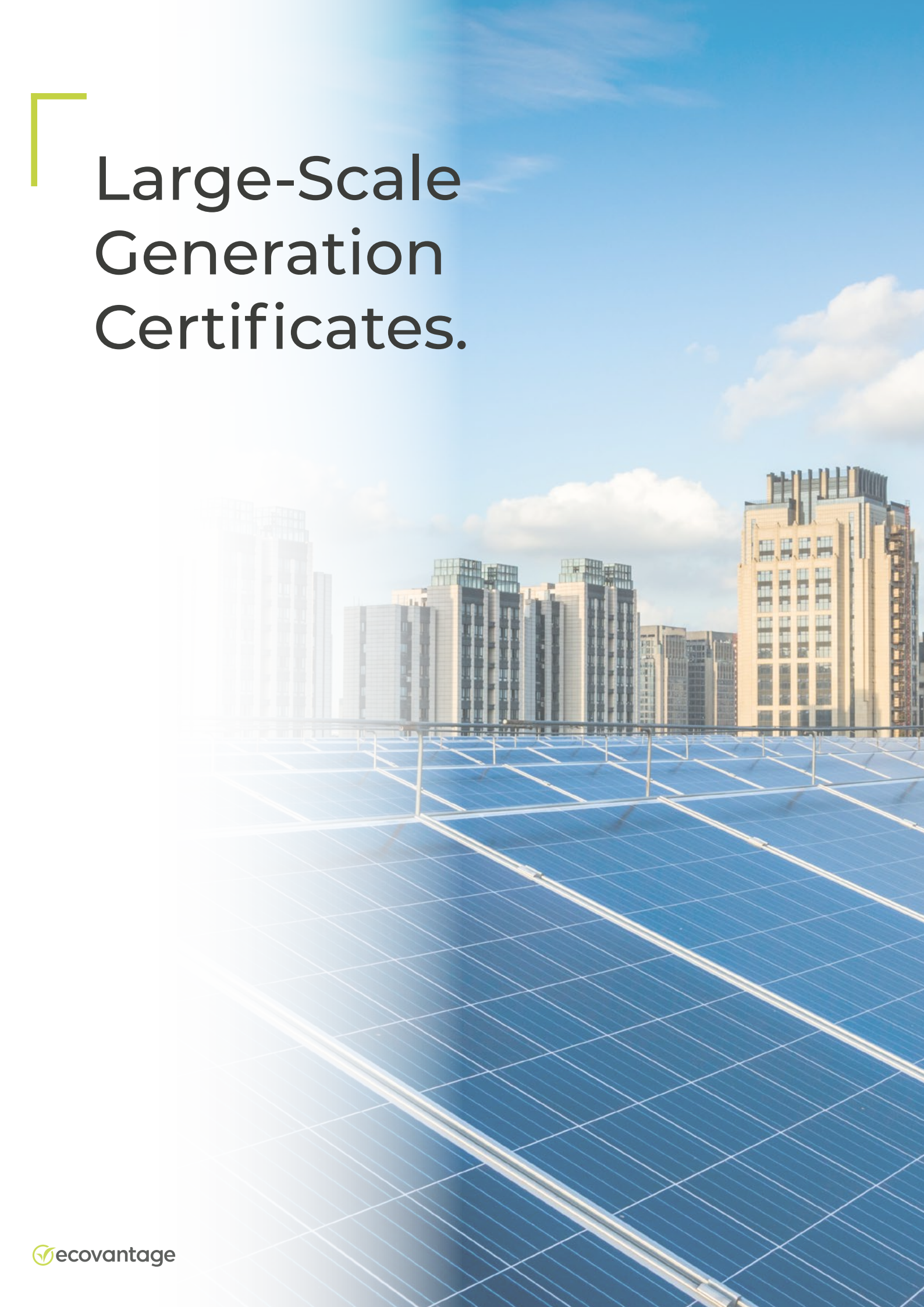
Baseline energy savings
18%



VEEC certificate value
\$585,000

Schemes.

	Australian Carbon Credit Unit (ACCU) Scheme	Victorian Energy Upgrades (VEU)	Energy Savings Scheme (ESS)	Retailer Energy Productivity Scheme (REPS)
Location	Federal	Victoria	New South Wales	South Australia
Certificates Created	Australian Carbon Credit Units (ACCU)	Victorian Energy Efficiency Certificates (VEECs)	Energy Savings Certificates (ESCs)	Retailer Energy Productivity Scheme (REPS) as a gigajoule target (GJ)
Certificates Generated Based On Method(s) Used	Annual Creation	Forward Creation, or Annual Creation, or Forward Creation, followed by Annual Creation	Forward Creation, or Annual Creation, or Forward Creation, followed by Annual Creation	Forward Creation, or Annual Creation
Energy Savings Period	Up to 7 years	Up to 10 years	Up to 10 years	Up to 10 years
Recommended Minimum Savings Electricity	800-1000MWh per annum	100-180MWh per annum	100-180MWh per annum	100-180MWh per annum
Recommended Minimum Savings Gas	7000GJs (first year)	2500-3500GJs (first year)	2500-3500GJs (first year)	1000-1500GJs (first year)
Energy Sources	Grid electricity Gas Diesel* Biofuel Biogas Biomass	Grid electricity Gas Diesel* Biofuel Biogas Biomass	Grid electricity Gas Diesel* Biofuel Biogas Biomass	Grid electricity Gas
Strengths	Wide range of technologies available. Certificates created are internationally recognised carbon credits. New projects can create certificates under certain criteria	Flexible regulator. Wide range of technologies available, including solar PV	No Grid intensity factor, and therefore no decreasing certificate value annually. Higher certificate value awarded for upgrades in regional areas	High volume of certificates created to counter a low certificate financial value
Weaknesses	No forecasted emissions factor. No forward creation method for Measurement and Verification projects	High volatility in the certificate market	Additional administrative requirements	Low certificate financial value. Capped volume for certificate creation each year



Large-Scale Generation Certificates.

Large-Scale Generation Certificates (LGCs) are renewable energy certificates offered under the Renewable Energy Target (RET) scheme.

Renewable Energy Systems larger than 100kW are eligible to create LGCs. LGCs are based on the amount of renewable electricity they produce. Wind, Hydro, and Biomass systems meeting certain criteria are also included.

One LGC is equal to one megawatt hour of renewable energy, the number of LGCs generated depends on the annual generation of the system.

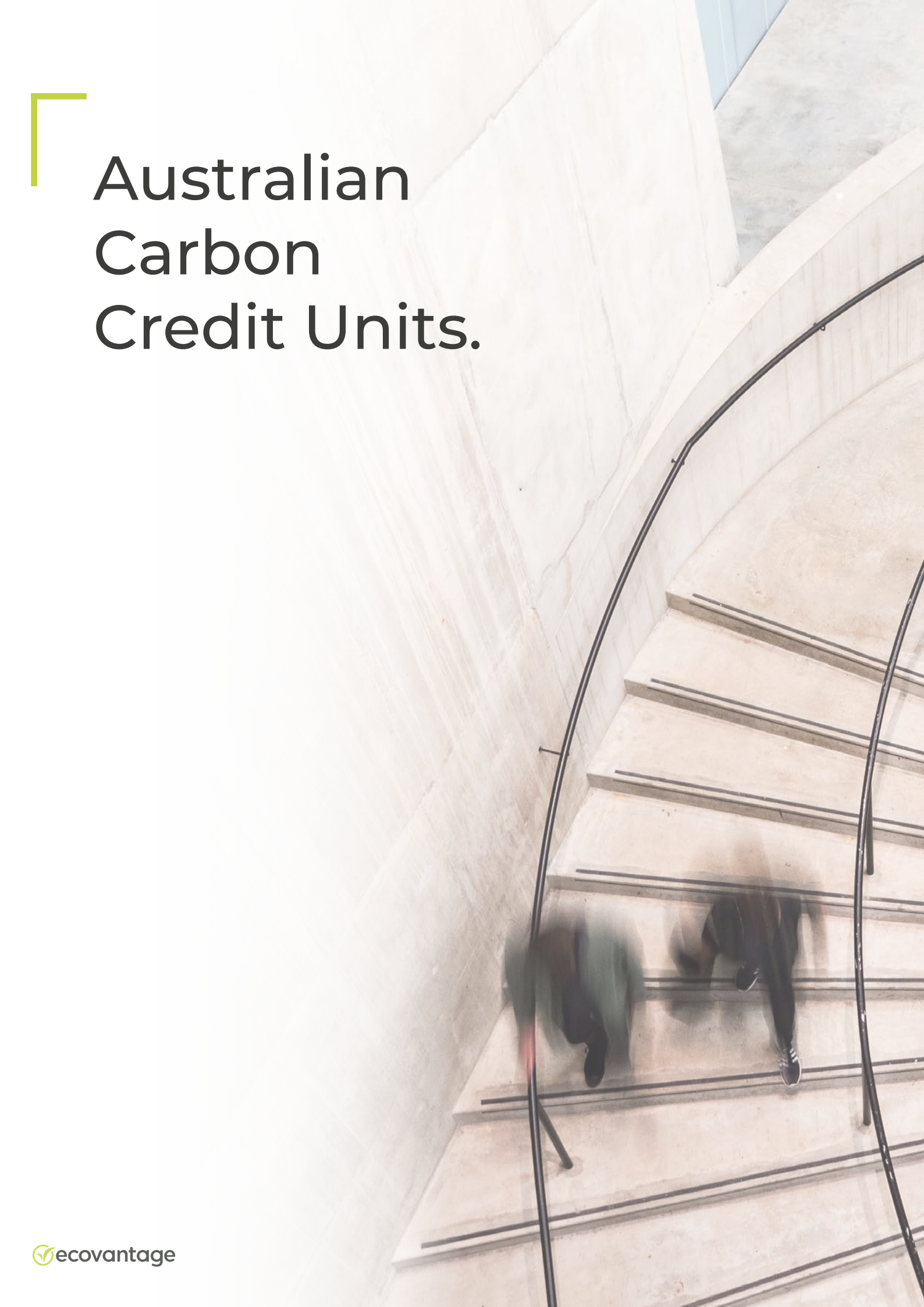
Once created, an LGC acts like a share that can be traded and sold. Some companies choose to use their own LGCs for Carbon Offset and Carbon Neutrality and other companies purchase them (mainly electricity retailers) to surrender for a LGC liability.

1 LGC
=
1 MW/h of
Clean Energy

Ecovantage Understands LGCs.

Ecovantage work with large solar asset owners, installers, and to create LGCs. We take the pain out of creating your solar income by offering the following.

- 1 Strongest Product Offerings**
We work directly with our solar partners to create the highest rebates, give cash-positive solutions and offer finance to help get customers over the initial hurdles.
- 2 Easy Collaboration**
24hr turn-around, bespoke certificate offerings, dedicated account managers, and direct communication lines.
- 3 Upfront Payments**
Ecovantage have partnered with industry bodies to offer customer the rebate/certificate upfront. No finance. No loans. No risk.
- 4 Lock-in Pricing**
Price Certainty: An annual dollar figure can be priced in and locked in today. Giving you or your client a stable and dependable income source that can be included in your budget and financial forecast.



Australian Carbon Credit Units.

Scheme Details.

Australian Carbon Credit Units (ACCUs) are an Australian based carbon credit that can be created as a result of activities that avoid or remove greenhouse gas emissions.

Each ACCU is representative of one tonne of carbon dioxide having been removed, or avoided, by the eligible activity.

Similar to many other Renewable Energy Certificates, ACCUs act as a financial instrument for activities that are directly avoiding or removing carbon emissions that would have otherwise been released without the project.

For an emissions related project, ACCUs are generated through a measurement and verification process, and created annually for 7 years.

These certificates involve a complex methodology, and therefore become viable with large-scale activities.

1 ACCU



**1 tonne CO₂
equivalent removed**

Who Purchases ACCUs?

Large organisations that have carbon neutrality, net zero or baseline emission targets can procure and surrender ACCUs as carbon offsets. This mimics the offset process that Large-Scale Generation Certificates (LGCs) are used for.

How are ACCUs Monetised?

Similar to many other Renewable Energy Certificates, once created ACCUs can be surrendered as an offset or traded. This revenue is often used to offset the cost of the energy efficiency or renewable energy project.

With Ecovantage, we mitigate the risk of a volatile market by allowing you to lock in a fixed price upon the commencement of your project. This allows you both peace of mind and financial stability knowing the revenue that your project will produce from the beginning.

What Activities are Eligible?

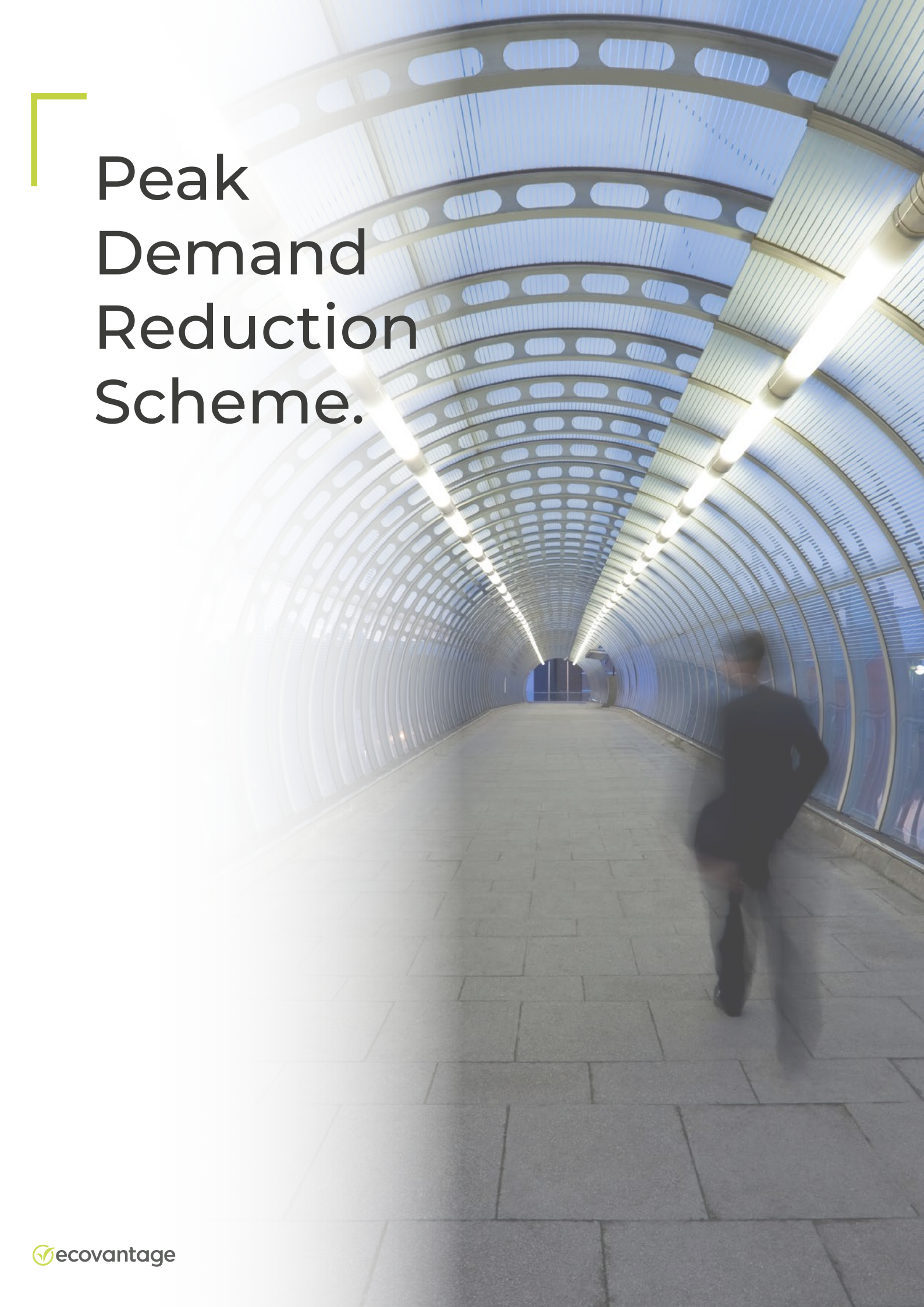
There are several activities eligible to create ACCUs, provided they are on a large-scale.

These include:

- Lighting Upgrades
- HVAC
- BMS Equipment
- VSD Installation
- Solar*
- Any other energy efficiency upgrades

For more information, or to discuss a potential project with our team, please contact us at anytime.

**ACCUs for Solar are subject to spot pricing to determine viability.*



Peak Demand Reduction Scheme.

Scheme Details.

In alignment with the NSW Government's plan to encourage peak demand reduction, the NSW Electricity Strategy outlines the Peak Demand Reduction Scheme (PDRS) as part of the Energy Security Safeguard.

The primary objective of the PDRS is to create financial incentives to reduce peak demand for energy.

Peak Period



2:30pm – 8:30pm AEDT

The scheme encourages peak demand reduction activities for both commercial and residential properties by allowing them to create Peak Reduction Certificates (PRCs).

1 PRC



0.1kWh saved during the outlined peak period

Therefore, if an activity saves 0.2kW for each of the 6 peak hours, they are eligible to create 12 PRCs for that timeframe.

$(0.2\text{kW} \times 6 = 1.2\text{kWh saved} = 12 \text{ PRCs})$

Generated certificates have an expiry date of 3 years from the date of creation. This means that the certificates can be traded and surrendered (or created and surrendered) within the year of creation and the two subsequent years.

The liable entities that participate in the scheme are energy retailers, direct suppliers of electricity, and market customers within the meaning of National Electricity Rules.

The scheme set a conservative target to reduce the peak energy demand of 0.5% in the 2022/23 financial year, increasing year on year until 2030 to achieve a 10% reduction.

With a 13% reduction, the Government aims to strengthen energy reliability and security on the path to Net Zero by 2050. A flow on effect will reduce the cost of electricity for customers as peak demand reduces.

What Activities are Eligible?

To reduce demand on the grid, the Scheme is providing financial incentives to households and businesses to reduce energy consumption during periods of high demand.

Incentives are available for activities involving eligible:

- Virtual Power Plants (VPPs)
- Air conditioners
- Refrigerated cabinets
- Pool pumps

Guarantee of Origin Scheme.

Scheme Details.

The Guarantee of Origin (GO) scheme is a federal government program that tracks emission reduction achieved through renewable energy production and storage.

The scheme has two parts; the Renewable Electricity Guarantee of Origin (REGO), which verifies the origin of renewable energy, and the Product Guarantee of Origin (PGO) which verifies where a product was made and its associated emissions.

The GO scheme provides a voluntary framework to quantify and track renewable energy generation and low-emission fuel production within Australia.

This is supported with certificates by way of REGOs and PGOs, which can be monetised through trade to energy consumers, or surrendered, to reduce an organisation's carbon liability.

REGOs will operate alongside LGCs, until the planned discontinuation of LGCs in 2030 when REGOs will completely supersede them.

**Ecovantage is the first
to create approved
REGO certificates**

Renewable Energy Guarantee of Origin Certificates (REGO).

Renewable Electricity Guarantee of Origin (REGO) certificates act as a mechanism to prove where and how renewable energy was created, allowing businesses to claim zero-emissions electricity consumption or prove the "green" status of secondary products.

These certificates can then be surrendered to claim the renewable energy benefit.

1 REGO
=
**1MWh of
Renewable Energy**

The purpose of the program is to provide transparency and credibility in the renewable energy market. By providing information on the origin and type of renewable energy, it helps to support the development of renewable energy, as well as provide surety to companies purchasing REGOs that the certificates are of a high quality.

REGOs can be created from the following renewable energy sources:

- Hydro
- Wind
- Solar
- Geothermal
- Energy crops
- Food and agricultural waste
- Bagasse
- Black liquor
- Landfill and sewage gas

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