



Australian Government

Clean Energy Regulator

# Clean Energy Regulator

Renewable Energy Target

## About the Renewable Energy Target

The Large-scale Renewable Energy Target (LRET)

The Small-scale Renewable Energy Scheme (SRES)





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# What is the purpose of the schemes?

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The Renewable Energy Target (RET) is split into two schemes - the Large-scale Renewable Energy Target (LRET) and the Small-scale Renewable Energy Scheme (SRES).

The schemes aim to:

- encourage the additional generation of electricity from renewable sources;
- reduce emissions of greenhouse gases in the electricity sector; and
- ensure that renewable energy sources are ecologically sustainable.

This is achieved by:

- the creation of online certificates by eligible renewable energy sources based on the amount of electricity in megawatt hours (MWh):
  - » **generated** by a renewable energy power station, or small-scale solar panel, wind or hydro system; or
  - » **displaced** by a solar water heater or heat pump; and
- placing a legal obligation on liable entities (usually electricity retailers) to purchase and surrender a certain amount of these certificates each year.

The trade in these certificates thereby provides financial incentive for investment in renewable energy power stations, and for the installation of solar water heaters, heat pumps, and small-scale solar panel, wind, and hydro systems.

The certificates are created and traded through the REC Registry, an Internet-based registry managed by the Clean Energy Regulator.

Since 2001, this mechanism has increased the number of installations of small-scale renewable energy systems, and stimulated investment in renewable energy power stations.

At the end of 2011, total investment in large-scale renewable energy power stations stood at around \$10.5 billion. The generating capability of renewable power stations was around 13,700 gigawatt hours (GWh) of eligible renewable energy per typical year. This is equivalent to the residential electricity needs of over 2.1 million households.

From 2001 to 2011, more than 1,329,000 small-scale installations such as solar panels and solar water heaters had certificates created and validated against them in the REC Registry.

# What underpins the schemes?

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The *Renewable Energy (Electricity) Act 2000* and the accompanying *Renewable Energy (Electricity) Regulations 2001* define the requirements of the Large-scale Renewable Energy Target and Small-scale Renewable Energy Scheme.

Until 2 April 2012 the Act, Regulations, and all associated requirements were administered by the Office of the Renewable Energy Regulator, which was a statutory agency under the Department of

Climate Change and Energy Efficiency. After this date, they are administered by the Clean Energy Regulator, the agency responsible for administration of the Renewable Energy Target, the Carbon Pricing Mechanism, the National Greenhouse and Energy Reporting System and the Carbon Farming Initiative.



# About the certificates

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From 2001 to the end of 2010, the commodity in the market was called a “Renewable Energy Certificate” or REC.

From 1 January 2011 RECs were reclassified into two certificate types: “Large-scale Generation Certificates” (LGCs) and “Small-scale Technology Certificates” (STCs).

## Large-scale generation certificates

Large-scale generation certificates (LGCs) are created in the online REC Registry by renewable energy power stations. One LGC is equivalent to 1 MWh (megawatt hour) of eligible renewable electricity generated above the power station’s baseline.

## Small-scale technology certificates

Small-scale technology certificates (STCs) are created in the online REC Registry for correctly installed eligible solar water heaters, heat pumps, and small-scale solar panels, wind, and hydro systems.

One STC is equivalent to 1 MWh (megawatt hour) of:

- renewable electricity generated by the solar panel, small-scale wind or small-scale hydro system (unless the Solar Credits multiplier applies); or
- electricity displaced by the installation of a solar water heater or heat pump.



# The Large-scale Renewable Energy Target (LRET)

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The Large-scale Renewable Energy Target creates a financial incentive for the establishment and growth of renewable energy power stations, such as wind and solar farms, or hydro-electric power stations. It does this by legislating demand for Large-scale Generation Certificates (LGCs). These LGCs are created based on the amount of eligible renewable electricity produced by the power stations. LGCs can be sold or traded to liable entities, in addition to the power station's sale of electricity to the grid. Liable entities have a legal obligation to buy LGCs and surrender them to the Clean Energy Regulator on an annual basis.

## Eligibility

- Power stations must generate their electricity from approved sources such as solar energy, wind, ocean waves and the tide, geothermal-aquifers, wood waste, agricultural waste, bagasse (sugar cane waste), black liquor (a by-product of the paper-making process), or landfill gas.
- A full list of eligible renewable energy sources is included in Section 17 of the Renewable Energy (Electricity) Act 2000. There are currently more than 15 different types of renewable energy sources being used in accredited power stations.
- Electricity generated from fossil fuels, or waste products derived from fossil fuels, is not eligible for LGCs.

## Certificate creation – benefits for renewable energy power stations

- When the *Renewable Energy (Electricity) Act 2000* was established in 2001 the aim was to both encourage additional generation of electricity from existing renewable energy power stations and to encourage new renewable energy projects.
- Eligible power stations are entitled to create large-scale generation certificates (LGCs) based around how much additional renewable electricity they produce above their baseline.
- During the accreditation process of a power station the Regulator determines the baseline – generally the average amount of electricity generated over the 1994, 1995 and 1996 years. Eligible parties can only create LGCs for electricity generated above the baseline.
- Power stations which generated electricity for the first time after 1 January 1997 have a baseline of zero.
- One LGC equals one megawatt hour (MWh) of generated renewable energy electricity.
- LGCs are created by renewable energy power stations directly in the online REC Registry.
- They must be correctly created and validated in the REC Registry before they can be made available for purchase and surrender.
- LGCs are sold through the open LGC market, where the price will vary according to supply and demand.

## How demand for certificates is created

- The Large-scale Renewable Energy Target specifies the amount of renewable energy to be generated by renewable energy power stations, for every year up to 2030.
- Currently, the targets are:

### Annual Targets 2011-2030 \*

Year	Target **
2011	10,400
2012	16,763
2013	19,088
2014	16,950
2015	18,850
2016	21,431
2017	26,031
2018	30,631
2019	35,231
2020	41,850
2021-2023	41,000

\* Targets adjusted as per Subsection 40 (1A).

\*\* One gigawatt hour (GWh) equals one thousand megawatt hours (MWh)

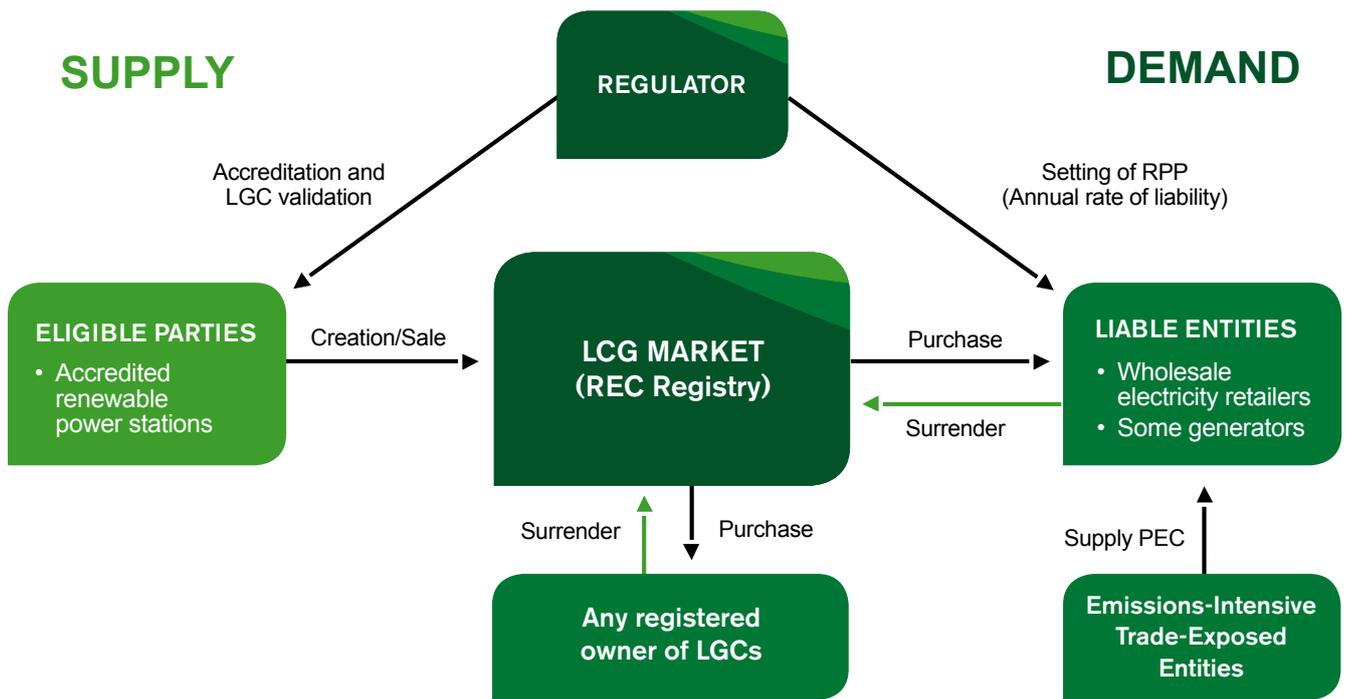
- The Large-scale Renewable Energy Target places a legal requirement on liable entities (typically electricity retailers) to purchase set number of Large-scale Generation Certificates (LGCs) each year.
- The number of LGCs to be purchased is calculated using the Renewable Power Percentage (RPP), set annually in the Regulations.
- The RPP takes into account:
  - » the required amount in the renewable electricity target for the year;
  - » the estimated amount of electricity that will be acquired by liable entities for the year;
  - » the any under or over surrender of LGCs against the annual targets of previous years; and
  - » the estimated amount of all partial exemptions (provided as Partial Exemption Certificates (PECs) to eligible emissions-intensive trade-exposed (EITE) industries) expected to be claimed for the year. The liable entity applies the annual RPP to the total megawatt hours of relevant electricity that they acquire from relevant electricity grids. This determines how many LGCs they will need to purchase and surrender for that year.
- Each liable entity purchases their LGCs directly from renewable energy power stations, or from Agents who deal with LGCs.
- Ownership of LGCs is transferred in the REC Registry, with payment negotiated directly between the businesses outside of the Registry.
- The market price of LGCs is dependent on supply and demand and can fluctuate daily; it has varied between \$10 and \$60 in the past.



## Certificate surrender

- Liable entities must surrender to the Clean Energy Regulator the required number of LGCs to meet their annual liability (as determined by the RPP).
- When certificates are surrendered, they are marked as invalid in the REC Registry. They can no longer be sold, traded, or purchased.
- If a liable entity does not surrender its required number of LGCs in a year, it is liable to pay a shortfall charge, currently set at \$65 per LGC not surrendered.
- Owners of LGCs may also voluntarily surrender their LGCs at any time. Any person or organisation with LGCs registered to them in the REC Registry can voluntarily surrender their certificates; this includes owners, Agents, and liable entities.
- Liable entities may voluntarily surrender LGCs separately to their mandatory liability set by the RPP. For example, when a householder opts to use electricity from renewable energy sources the liable entity can buy certificates equivalent to the householder's electricity usage and voluntarily surrender these certificates to the Clean Energy Regulator.
- Voluntary surrender creates further demand in the market for renewable energy, over and above the mandated requirement.

## Large-scale generation certificate (LGC) Market



# The Small-scale Renewable Energy Scheme (SRES)

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The Small-scale Renewable Energy Scheme creates a financial incentive for owners to install eligible small-scale installations such as solar water heaters, heat pumps, solar panel systems, small-scale wind systems, or small-scale hydro systems. It does this by legislating demand for Small-scale Technology Certificates (STCs). STCs are created for these installations according to the amount of electricity they produce or displace. Liable entities have a legal requirement to buy STCs and surrender them on a quarterly basis.

## Eligibility

- Solar water heater or heat pump installations are eligible if the system is new and listed in the Register of Solar Water Heaters managed by the Clean Energy Regulator.
- Small-scale solar, wind and hydro systems are eligible if:
  - » the system is new;
  - » its components are listed in the Clean Energy Council list of accredited components;
  - » it is installed correctly by a Clean Energy Council accredited installer;
  - » it is installed on an eligible premises; and
  - » it complies with all local, State, and Federal requirements for its type of installation.
- Documentation for small-scale systems, demonstrating compliance with the legislated requirements, must be completed and signed by the owner, installer, and/or Registered Agent (as appropriate), and able to be produced if requested by the Clean Energy Regulator .
- A Registered Agent is eligible to create STCs if the owner has correctly signed over the certificates to them and this signed documentation can be provided to the Clean Energy Regulator.



## Certificate creation and assignment – benefits for owners

Eligible small-scale systems are entitled to create small-scale technology certificates (STCs) based around how much renewable electricity the systems produce or displace.

- The number of certificates a system can create is based on the amount of electricity in megawatt hours (MWh):
  - » generated by the small-scale solar panel, wind or hydro system, over the course of its lifetime of up to 15 years; or
  - » displaced by the solar water heater or heat pump, over the course of its lifetime of up to 10 years.
- This number may vary depending on geographic location, what kind of system is being installed, Solar Credits eligibility, and/or the size and capacity of the installed system.
- STC ownership is generally vested in the owner of the small-scale system being installed, but can be assigned using a STC Assignment Form to a third-party agency, such as a retailer or installer.
- These agencies must be registered with the Clean Energy Regulator and are known as “Registered Agents”.
- Registered Agents co-ordinate the purchase and installation of systems for the owners. They provide a financial benefit (such as a discount off the invoiced price of purchase and installation) to owners in exchange for the right to create and sell the STCs.
- This financial benefit, which is generally based around the price of STCs at the time, ensures that the price of small-scale systems remains within reach of householders, and encourages the installation of more systems.
- STCs are created by owners directly in the online REC Registry. They must be correctly created and validated in the REC Registry before they can be made available for purchase and surrender.

## Solar credits

Solar Credits is a mechanism which increases the number of STCs able to be created for eligible installations of small-scale solar panel, wind or hydro systems by multiplying the number of certificates for which the system would normally be eligible. Solar Credits apply to the first 1.5 kilowatts (kW) of on-grid capacity installed in an eligible location (known as the “eligible premises”) OR to the first 20kW of capacity for off-grid systems (if the legislated annual cap for off-grid certificates has not yet been reached).

Generation from capacity above 1.5 kW (on-grid), or 20kW (off-grid), either on the original system or on any additional capacity installed at a later date, is eligible for one (1) STC per MWh of generated power.

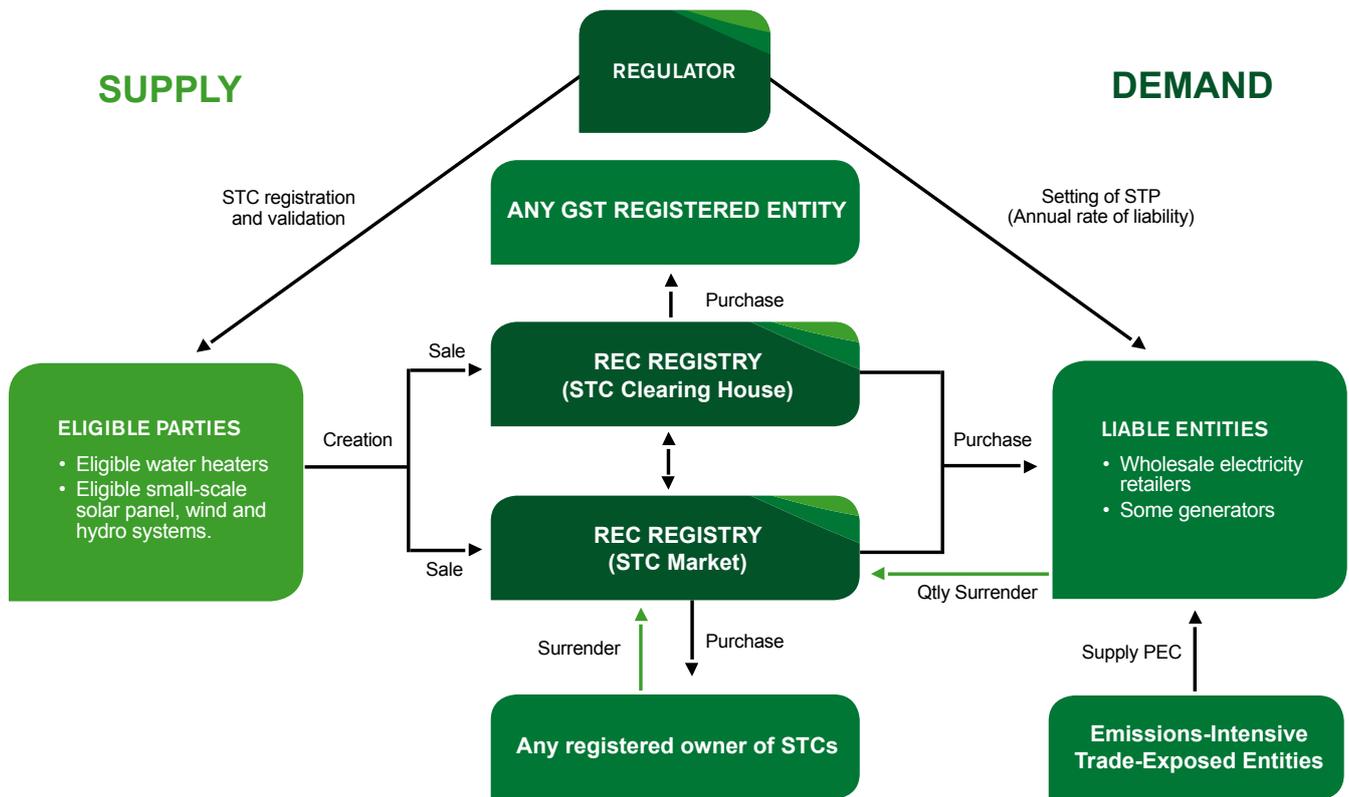
## How demand for certificates is created

- The SRES places a legal liability on liable entities (typically electricity retailers) to purchase an amount of small-scale technology certificates (STCs) each year.
- The number of STCs to be purchased is calculated using the Small-scale Technology Percentage (STP), set annually in the Regulations.
- The STP is calculated on the estimated:
  - » value, in megawatt hours, of small-scale technology certificates that will be created for the year;
  - » amount of electricity that will be acquired by liable entities for the year; and
  - » amount of all partial exemptions expected to be claimed for the year.
- This is done each year as, under the Act, there is no target on the number of STCs to be generated for any given year.
- Liable entities apply the annual STP to the total megawatt hours of relevant electricity that they acquire from relevant electricity grids. This determines how many STCs they will need to purchase for each quarter of that year.
- The Clean Energy Regulator also provides liable entities with an estimate of required surrender amounts for quarters 1 – 3 of each calendar year.
- The liable entity may purchase their STCs through an Agent who deals with STCs, or transactions may occur at \$40 *or under*. There is a Government-guaranteed price of \$40/STC (excl. GST) if the seller uses the STC Clearing House. STCs are only sold through the STC Clearing House when there is a buyer and there is no guarantee on how long STCs will take to sell.

## Certificate surrender

- Liable entities must surrender to the Clean Energy Regulator the STCs that they have purchased during the year to prove they have met their required surrender amount.
- When certificates are surrendered, they are marked as invalid in the REC Registry. They cannot any longer be sold, traded, or purchased.
- Liable entities need to surrender STCs in April, July, October and February of each calendar year, to meet their quarterly liability requirements.
- If a liable entity does not surrender its required number of STCs in a quarter, it will be liable to pay a shortfall charge, currently set at \$65 per STC not surrendered.
- Owners of STCs may also voluntarily surrender their STCs at any time. Any person with STCs registered to them in the REC Registry can voluntarily surrender their STCs; this includes owners, Agents, and liable entities.
- Liable entities may voluntarily surrender STCs separately to their mandatory liability set by the STP to the Clean Energy Regulator.
- Voluntary surrender creates further demand in the market for renewable energy, over and above the mandated requirement.

## Small-scale technology certificate (STC) Market



# Partial exemption for emissions-intensive trade-exposed activities

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The Act and Regulations include provisions to provide partial exemption from LRET and SRES liability for electricity used in prescribed emissions-intensive trade-exposed (EITE) activities. Such activities include production of glass containers and bulk flat glass, integrated production of lead and zinc, manufacture of newsprint and cartonboard, and petroleum refining.

A full list of eligible EITE activities is included in Schedule 6 of the *Renewable Energy (Electricity) Regulations 2001*, and summarised in the RET EITEs section of the Clean Energy Regulator website. There

are currently more than 30 activities in the Schedule.

In order to receive exemption, companies that carry on RET-based EITE activities must apply annually to the Clean Energy Regulator for a Partial Exemption Certificate (PEC) and trade the PEC to the named liable entity, at a value negotiated between the EITE company and the liable entity.

A PEC can provide the liable entity with a certain number of megawatt hours (MWh) worth of exemption from LGC and STC liability when included in their annual reporting.



# How are certificates managed?

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## The REC Registry

The REC Registry is an Internet-based registry system that:

- facilitates the creation, registration, transfer and surrender of LGCs and STCs;
- tracks the ownership and status of LGCs and STCs;
- provides access to the STC Clearing House; and
- maintains various public Registers as set in the Act, such as the Register of Large-scale Generation Certificates.

All STCs and LGCs must be created in the REC Registry before they can be bought, sold, traded, or surrendered. Access to the REC Registry is publicly available. Registration to create, buy, sell, or surrender certificates may incur a fee, depending on the actions to be performed and the level of registration.

The REC Registry is available at [www.rec-registry.gov.au](http://www.rec-registry.gov.au).

## STC Clearing House

The STC Clearing House facilitates the exchange of Small-scale Technology Certificates (STCs) between buyers and sellers at the fixed price of \$40 (excl. GST). It is accessed via the REC Registry. Large-scale Generation Certificates (LGCs) are not included in the STC Clearing House.

Access to the STC Clearing House requires proof of identity verification before the REC Registry registration is completed.

STCs must first be created and validated in the REC Registry, and fulfil all compliance and process requirements.

Once validated, they can be listed for sale in the Clearing House Transfer List, regardless of whether any buyers have registered to purchase STCs.

- Buyers can purchase STCs even when there are none listed in the Transfer List. They will be issued with Regulator-created STCs which can be traded and surrendered exactly like ordinary STCs. Regulator-created STCs are automatically replaced with STCs when STCs are offered for sale in the STC Clearing House.
- Sellers have their STCs added to the end of the STC Clearing House Transfer List. They will remain there until a buyer makes a purchase request.
  - » If there are no other STCs in the list and a buyer places a purchase request, the sale can occur immediately.
  - » If there are STCs in the list and no buyers, the STCs must wait until a buyer makes a purchase. There is no guarantee on how long the STCs will take to sell.

The status of the STC Clearing House Transfer List is publicly available and updated on an hourly basis. It is found at [www.rec-registry.gov.au/clearingHouseTransferList.shtml](http://www.rec-registry.gov.au/clearingHouseTransferList.shtml).



# Administration of the Renewable Energy Target

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The Australian Government's Clean Energy Regulator is an independent FMA Agency that administers and enforces the Carbon Pricing Mechanism, the National Greenhouse and Energy Reporting System, the Renewable Energy Target and the Carbon Farming Initiative.

On the 1 January 2011 the Renewable Energy Target was split into two parts - the Large-scale Renewable Energy Target (LRET) and the Small-scale Renewable Energy Scheme (SRES). The schemes are underpinned by the *Renewable Energy (Electricity) Act 2000 (the Act)*, *Renewable Energy (Electricity) (Charge) Act 2000* and the *Renewable Energy (Electricity) Regulations 2001*.

The Clean Energy Regulator:

- maintains several registers, which include the register of:
  - » registered persons
  - » accredited power stations
  - » small-scale technology certificates (STCs)
  - » large-scale generation certificates (LGCs)
  - » applications for accredited power stations.
- accredits eligible renewable energy power stations
- registers LGCs for accredited renewable energy power stations
- registers STCs for solar water heater, heat pump and small-scale solar panel, wind and hydro electricity installations
- manages and maintains the online REC Registry and the STC Clearing House
- monitors compliance with the Act
- communicates the Act and Regulations
- updates and maintains the Register of Solar Water Heaters
- manages inspections of small-scale solar panels, wind and hydro installations for which certificates have been created
- manages the partial exemption process for emissions-intensive trade-exposed industries.

For further information on the Renewable Energy Target, the Large-scale Renewable Energy Target and the Small-scale Renewable Energy Scheme, visit <http://ret.cleanenergyregulator.gov.au>.

## Powers and compliance

All participants in the LRET and SRES (including individuals, companies, executive officers of companies and other persons) must comply with the Act for the creation of certificates, reporting and other requirements. The provision of any false or misleading information to the Clean Energy Regulator that results in the creation, sale, or surrender of LGCs and STCs by an installer, registered person, registered agent, registered power station, or liable entity can result in prosecution under the Act.

Failure to comply with the requirements of the Act can result in the use of enforcement remedies such as:

- civil penalty orders;
- enforceable undertakings;
- injunctions;
- fines that range from approximately \$5000 to \$1 million Australian dollars;
- suspension of REC Registry account/s and
- public naming of companies.

All participants in the LRET and SRES can be audited at any time by Clean Energy Regulator staff.

For more about the penalties under the Act see the RET Compliance section of the Clean Energy Regulator website at <http://ret.cleanenergyregulator.gov.au>.

# Helpful links

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**The Clean Energy Regulator.**

<http://ret.cleanenergyregulator.gov.au>.

**REC Registry.** The Registry that holds all LGCs and STCs. Also provides access to the public Registers administered by the Clean Energy Regulator.

[www.rec-registry.gov.au](http://www.rec-registry.gov.au).

**ComLaw.** Provides access to the Act and Regulations. [www.comlaw.gov.au](http://www.comlaw.gov.au).

**Department of Climate Change and Energy Efficiency.** For policy updates.

[www.climatechange.gov.au](http://www.climatechange.gov.au).

**Clean Energy Council.** Manages the accreditation of installers of small-scale solar panels, wind and hydro systems and is the peak body representing Australia's clean energy sector.

[www.cleanenergycouncil.org.au](http://www.cleanenergycouncil.org.au).

**GreenPower.** An initiative for people and businesses to voluntarily buy and surrender LGCs.

[www.greenpower.gov.au](http://www.greenpower.gov.au).

**Living Greener.** An Australian Government website containing information for householders to help them live more sustainably. This includes information on solar panels and small-scale wind and hydro systems. [www.livinggreener.gov.au](http://www.livinggreener.gov.au).

**Your Home.** An Australian Government website containing a suite of consumer and technical guide materials and tools developed to encourage the design, construction or renovation of homes to be comfortable, healthy, and more environmentally sustainable. [www.yourhome.gov.au](http://www.yourhome.gov.au).





<http://ret.cleanenergyregulator.gov.au>

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