
Climate Active electricity carbon accounting rules

GUIDE

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100% Renewables is pleased to provide you with this guide which discusses the new Climate Active rules for accounting for electricity emissions and reduction measures.

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INTRODUCTION

What you need to know about the new
CLIMATE ACTIVE
electricity carbon
accounting rules



Are your electricity-based emissions zero because your business is based in the Australian Capital Territory, which buys 100% renewable electricity? Can you deduct the export from your 150 kW system from your electricity emissions? Can you claim the renewable energy proportion of your grid supply? Is the electricity that is being generated from your 99 kW solar system emissions-free, even though you availed yourself of the STC discount? Are your emissions from electricity zero because you just entered into a 100% renewable energy Power Purchase Agreement? Can you deduct GreenPower® purchases from your electricity emissions?

While there are no clear frameworks (other than the [GHG Protocol](#)) on how to properly account for electricity-based emissions and their reductions in some countries, we are in a much better position in Australia.

Here, we have the mandatory [Renewable Energy Target](#), which provides the framework for Renewable Energy Certificate creation, and we have a mandatory ([NGER](#)) and voluntary ([Climate Active](#)) reporting system for emissions.

Climate Active has recently released guidance on how to account for electricity-based emissions and reduction measures, allowing you to get recognition for your renewable energy projects.

The Clean Energy Regulator, which administers the NGER system, is also consulting on the design of a new [Corporate Emissions Reduction Transparency report](#) (CERT). If you are a large emitter reporting under NGER, you will be able to show how you are meeting your emissions reduction goals.

Let's have a look at the new Climate Active rules for accounting for electricity emissions and reduction measures.

Climate Active has recently released guidance on how to account for electricity-based emissions and reduction measures, allowing you to get recognition for your renewable energy projects.

NEW CLIMATE ACTIVE RULES FOR CARBON ACCOUNTING FOR ELECTRICITY

The Climate Active team recently released a set of rules which are based on best-practice principles in the [Greenhouse Gas Protocol Scope 2 Guidance](#) and stakeholder consultation. The new framework applies to annual Climate Active reports from calendar year 2021 and financial year 2020/21 onwards.

One of the most significant changes is that you now need to report both your **location and market-based** electricity emissions, which is called 'dual reporting'. If you are reporting under [CDP](#), you will be familiar with this concept.

You *must* use dual reporting for Climate Active organisation, simple service, building, precinct and event certifications, while you can *choose* to use a dual reporting method for product and complex service certifications. You can select either the location- or market-based approach as the *primary* electricity accounting method, which will determine the number of offsets required to go carbon neutral under Climate Active.

Location- and market-based approach to accounting for electricity emissions

In carbon accounting, one of the most important and largest sources of emissions is the consumption of electricity, which is accounted for under scope 2.

According to the [Scope 2 Guidance of the GHG Protocol](#), there are two distinct methods for scope 2 accounting, which are both useful for different purposes. The methods used to calculate and report scope 2 emissions impact how a company assesses its performance and what mitigation actions are incentivised. When used together, they can provide a fuller documentation and assessment of risks, opportunities and changes to emissions from electricity consumption over time.

One of the most significant changes is that you now need to report both your location and market-based electricity emissions, which is called 'dual reporting'.

The location-based method

This method reflects the average emissions intensity of the grid, based on your company's location. This method allows you to calculate emissions that you are *physically* emitting to the atmosphere. So, if your business is located in the ACT, which is 100% renewable, you will still have to apply the NSW grid's emissions factor, as you are getting your electricity from NSW power plants. The location-based method does not allow for any claims of renewable electricity from grid-imported electricity use.

The only way you can reduce electricity emissions using the location-based method is to site your business in an area where the electricity from the grid has lower emissions (e.g. Tasmania, or New Zealand), to reduce your electricity consumption, or to install behind-the-meter renewable energy systems. Buying renewables will not be recognised under the location-based method.

The market-based method

The market-based method reflects the emissions that you are responsible for from the

electricity you *purchase*, which may be different from the electricity that is generated locally. This method derives emission factors from contractual instruments, such as the purchase of GreenPower®, RECs/LGCs, or bundled renewable energy power purchase agreements. It uses a 'residual mix factor' (RMF) to allow for unique claims on the zero-emissions attribute of renewables without double-counting.

Under the market-based approach, you can reduce your electricity-based emissions by being more energy-efficient, by installing onsite renewables and shifting your electricity supply to renewables.

You can choose which method total – market-based, location-based or both—to use for performance tracking and must disclose this in your inventory.

The following sections go through the details of how to treat onsite generation, the export of renewables, the treatment of renewable energy certificates, the purchase of renewables and carbon-neutral electricity.



Treatment of Renewable Energy Certificates

Renewable Energy Certificates consist of Large-scale Generation Certificates (LGCs), from solar PV systems greater than 100 kW, and Small Technology Certificates (STCs), from small-scale solar PV systems of less than 100 kW.

One renewable energy certificate equates 1 MWh of renewable energy generation. You can find more information about these certificates in [this blog post](#).

You can use LGCs to reduce reported electricity emissions under the market-based method, but not STCs.

Market-based method

- You can use LGCs as a unique claim on the zero-emissions attribute of renewable generation within a Climate Active carbon account (meaning you can deduct retired LGCs from your electricity emissions).
- You can only use LGCs to account for electricity-based emissions, e.g. direct grid-based electricity (scope 2) or indirect emissions sources (scope 3) consisting entirely of electricity, such as third-party operated data centres, or streetlighting.
- You must retire LGCs on the [Renewable Energy Certificate Registry](#), with evidence of their retirement, including serial numbers, provided to Climate Active.
- You should directly retire LGCs in the name of the claimant, for example, 'Retired on behalf of Company X for 2020 Climate Active carbon-neutral claim'.
- You may retire LGCs indirectly on behalf of the claimant, for example, by GreenPower®. You should provide serial numbers to Climate Active.
- In instances where you cannot provide discrete LGC serial numbers, Climate Active may consider accepting other evidence that LGCs have been retired, for example,

certificates provided by an electricity generator or electricity bills listing accredited GreenPower® usage.

- LGCs must have an issuance date of less than 36 months from the end of the reporting year; for example, a calendar year 2020 report (ending 31 December 2020) could use LGCs with an issuance date of no earlier than 1 January 2018.
- You cannot use STCs to make renewable energy emission reduction claims for grid imported electricity consumption.

Location-based method

- Neither LGCs nor STCs can be used to make renewable energy emission reduction claims for grid-imported electricity consumption.

You must use dual reporting for Climate Active organisation, simple service, building, precinct and event certifications, while you can choose to use a dual reporting method for product and complex service certifications.

Renewable Energy Target

The [Renewable Energy Target](#) (RET) is a legislated scheme designed to reduce emissions from the electricity sector and incentivise additional electricity generation from sustainable and renewable sources. The RET consists of two different schemes: the large-scale renewable energy target (LRET) and the small-scale renewable energy scheme (SRES). You can account for your investments in the LRET under the market-based method.

Market-based method

- The percentage of electricity consumption attributable to the LRET, as reflected by the [Renewable Power Percentage](#), for a given reporting year, is assigned an emission factor of zero in the carbon account. For example, a business using a total of 1,000 MWh of electricity in 2019, lists 186 MWh as zero emissions ($1,000 \times 18.6\%$ (RPP for 2019)).
- This deduction is not available to you if you are exempt from the LRET (i.e. Emissions Intensive Trade Exposed Industries).

Location-based method

- There is no separate accounting treatment for the LRET as it is already included in the state emissions factors.

GreenPower®

GreenPower® is an easy way to switch your electricity supply to renewables that are additional to the Renewable Energy Target. If you need more information on how GreenPower® works, please read the [GreenPower Guide for Businesses](#) we developed for the GreenPower® program.

You can also obtain accredited GreenPower® under your renewable energy PPA. For more information, please read our [GreenPower® PPA blog post](#).

You can account for your GreenPower® purchases using the market-based method.

Market-based method

- Accredited GreenPower® usage is assigned an emission factor of zero in your carbon account, regardless of the state in which you are using GreenPower®.
- GreenPower® use in excess of what is required to account for your direct electricity usage may be used to reduce your other indirect entirely electricity-based emissions (e.g., data centre usage, streetlighting).
- GreenPower® use in excess to what is required to account for your entire electricity usage cannot be used to offset other non-electricity emission sources in your carbon account (such as, for instance, emissions from your fleet).

Location-based method

- You cannot use GreenPower® purchases to make zero-emission electricity claims under the location-based method.

You can select either the location- or market-based approach as the primary electricity accounting method, which will determine the number of offsets required to go carbon neutral under Climate Active.

Renewable energy Power Purchase Agreements

Renewable energy [Power Purchase Agreements](#) (PPAs) are a great way to cost-effectively increase the renewables proportion of your electricity supply. They also allow you to switch your entire electricity to [100% renewables](#), thus bringing your electricity-based emissions to zero. However, just like with LGCs described above, you need to retire LGCs associated with your PPA to be able to [claim the emissions reduction and renewable energy generation](#).

Market-based method

- You need to retire LGCs above any mandatory LRET obligations to claim zero emissions for your electricity consumption.
- Where you cannot be listed on the REC Registry, you need to supply other evidence to the Climate Active team from the retiring body, such as certificates from the electricity provider.
- You cannot use supplier-specific emissions factors.

Location-based method

- You cannot use retired LGCs, including under PPAs, to make zero-emissions claims under the location-based method.

Local renewable energy generation

One of the best ways to reduce electricity consumption other than reducing your consumption is to install solar panels or other renewable energy generation systems where your circumstances allow it. If you directly consume electricity from a renewable energy system, it is called a 'behind the meter' system.

You can account for behind-the-meter use of renewable generation systems under both the location- and the market-based method. However, you can only account for exported electricity under the market-based method.

Market-based method

- Behind-the-meter use of electricity from large scale systems may be reported and assigned an emissions factor of zero in your carbon account, only if you retire any LGCs associated with that generation or not create any. An example of when you don't create any LGCs is when you install a large-scale system, and you choose not to generate any LGCs.
- If you are creating and selling LGCs, you must treat behind-the-meter usage from large-scale systems the same as electricity consumption from the grid (that is, treated as residual electricity).
- You may report and assign behind-the-meter use of electricity from small-scale systems an emissions factor of zero in your carbon account, regardless of whether you have created, transferred or sold any STCs associated with this generation.
- You need to convert exported electricity from renewable systems into an emissions reduction equivalent and net from gross emissions. You can achieve this by multiplying exported electricity by the national scope 2 electricity factor only (to account for transmission losses) for the year of the generation. You must retire any LGCs or not create any. You don't need to retire any STCs associated with this generation.

Location-based method

- You may report behind-the-meter use of electricity from large scale systems as zero emissions in your carbon account, provided you retired any LGCs associated with that generation or did not create any.
- If you create and sell LGCs, you must treat behind-the-meter use from large scale systems the same as electricity consumption from the grid.
- You may report behind-the-meter use of electricity from small-scale systems as zero emissions in your carbon account, regardless of whether you have created,

transferred or sold any STCs associated with this generation.

- Under the location-based method, you can't use exported electricity as a reduction in electricity emissions.

Jurisdictional renewable energy targets

Market-based method

- If you are operating in a jurisdiction where the government retires LGCs (such as, for instance, in the ACT), you can claim the corresponding percentage of emissions impact on your electricity consumption as zero, provided that the LGCs are retired on behalf of the jurisdictions' citizens and the claim is auditable for the given reporting year.

Location-based method

- There is no separate accounting treatment, as the emissions benefit is already included in the state factors used to convert electricity consumption into its emissions equivalent.

Climate Active certified carbon-neutral electricity

Market-based method

- You can convert Climate Active certified carbon neutral electricity into its emissions equivalent and deduct it from the gross carbon account offset liability.
- You can convert by applying the relevant emission factor for the particular brand of carbon-neutral power.

Location-based method

- Same rules

Grid-imported (residual) electricity

Market-based method

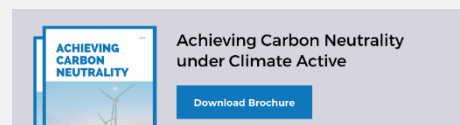
- You need to convert electricity usage not matched by zero-emissions electricity attribute claims (residual electricity) into t CO₂-e using the RMF according to the below formula: $RMF = \text{National EF} / (1 - RPP)$ RMF (residual mix factor), EF (emission factor), RPP (renewable power percentage), e.g. in 2019, the RMF equals: $= 0.88$ (national scope 2 and 3 EF) / 0.814 (18.6% RPP) = 1.08 Financial year reports will use the average of the RMF across the relevant calendar years, reflecting the RPP of each 6-month period. While this sounds complicated, Climate Active have electricity calculators that help with calculating the associated emissions.

Location-based method

- You need to convert electricity use in each state of your operations into t CO₂-e using the relevant state NGA factor (either scope 2 and scope 3; or the full fuel cycle factor).
- The emissions factor used should correspond to the reporting year where possible, i.e. a 2018 reporting year should use the 2018 NGA factors.

If you would like more information,
please download our

[Climate-Active brochure](#)



Need help?









If you are interested in the development of a Climate Active carbon inventory for your organisation that takes into account scope 3 emissions and properly accounts for electricity-based emissions/reductions, please consider contacting us.

Two of our staff are registered consultants with Climate Active, and we can guide you through the process of achieving certification or developing a Climate Active-ready carbon inventory.

If you would like more information, please download our [Climate Active brochure](#), or contact [Barbara](#) or [Patrick](#).

Services we offer

We offer the following services that can support you on your climate action journey:

-  Climate Action Strategy
-  Carbon Footprinting, SBTs & Net-Zero
-  Climate-Active-ready carbon footprints and accreditation
-  Energy Audits and Plans
-  Solar Feasibility and Implementation
-  Financing Strategy
-  Energy-on-Call
-  Content Development



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100% Renewables are experts in climate action target, strategy and action plan development.

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