



net zero  
CARBON

# GUIDES AND INSIGHTS

*4.2. Scope 2 emissions reductions*



# Scope 2 emissions reductions

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Scope 2 emissions are upstream generation emissions from purchased electricity, heat, steam, or cooling. For an organisation to reduce its Scope 2 emissions, it must reduce the amount of energy it uses or make changes to the kind of energy it is purchasing.

This document will categorise emissions reductions in Scope 2 as technological, behavioural, and contractual (market-based). For the sake of simplicity, it will also limit itself to electricity as the Scope 2 impact that is the primary concern of most businesses.



## Technological

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Investing in new technology is perhaps the most obvious way of reducing Scope 2 emissions. A list of possible technology changes is as unique as the business considering them. Some general examples are switching to LED lighting and purchasing more energy efficient IT equipment. A business should consider asset auditing (the subject of another guide and insight piece in Section 4) to identify the most cost-effective technology changes available to it for reducing electricity usage. engine cars.

## Behavioural changes

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Behavioural changes for reducing Scope 2 emissions relate to changing people's behaviour so that less of a fuel is consumed.

Behaviour change is a broad topic that affects everything from building energy use, manufacturing process energy use, and transport energy use. Methods to reduce energy use through behaviour change are also broad – supported by staff training and awareness raising, new signage, and incentive programmes. Up to half of the UK's progress towards meeting its 2030 energy efficiency targets have the potential to be met through **behaviour change**.

## Contractual (market-based) approaches

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Beyond lowering energy use, an organisation can also change the characteristics of the energy it purchases.

# Green Electricity Tariffs

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Most modern electricity suppliers in liberalised energy markets allow their customers to choose what kind of electricity they are supplied with. One of the simplest options a company can use to claim lower absolute emissions is to choose a green electricity tariff. This guarantees that a customer's supply comes from renewable sources of electricity. An energy attribute certificate – which in Europe exists as the Renewable Energy Guarantee of Origin (REGO) system – is provided for the supply. A certificate states that a standard quantity (usually 1 MWh) of renewable electricity has been generated. When a green tariff is chosen, the equivalent contract volume is purchased in certificates, which are then cancelled against a central registry to ensure all renewable energy in the certificate system is claimed against renewable energy that has actually been generated, without double-counting.

The energy attribute certificate of a green tariff is considered the best form of evidence a consumer can use to attribute zero Scope 2 emissions to the energy from that tariff.

## Corporate Power Purchase Agreements (CPPAs)

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A green tariff remains a conventional energy contracting arrangement: a consumer enters a contract with a supplier, who buys energy from a generator. A Corporate Power Purchase Agreement, in contrast, involves direct contracting between the business energy consumer and the generator of electricity.

The purchaser is an off-taker of a particular project and power can either be consumed

'physically' from the source to the consumer, or most commonly in the UK, through 'sleeving' the power into an existing flexible supply contract framework. CPPAs are long term agreements between five and twenty-five years, and are negotiated to provide renewable energy, typically from solar and wind installations.

CPPAs are relatively mature, having been available since the early 2010s. However, technology improvements and market progression have made CPPAs more popular in recent years. Lower capital costs and strike prices for renewable installations make them more competitive against wholesale electricity. Subsidies for renewable energy are also being phased-out in Europe: CPPAs are offering an alternative route to market for investors and developers of renewable energy.

CPPAs are attractive to businesses wishing to claim emission reductions because of the stability they provide. The long-term contracts are not subject to the price volatility typical of REGOs, which must be purchased when supply contracts are renewed, usually no less often than every three years.

A business seeking to enter into a CPPA must find a project that delivers a volume appropriate to their level of consumption, and which aligns with their sustainability strategy. Exploring the market of available CPPAs and the developers selling them can be daunting for businesses unfamiliar with the market. As a result, CPPAs are usually entered into with the help of a market advisor. The complexity of a CPPA may still be unattractive to businesses who also need legal and compliance support. Furthermore, long-term energy contracts may not suit all business models or growth strategies. There remains an element of risk derived from the long-term unpredictability of energy markets and the agreed price of the CPPA (although there are mechanisms available to manage this risk). While CPPAs are not suitable for all businesses, the share of the volume they represent in traded electricity is expected to increase.

# About Us

The UK has a net zero target for 2050. Businesses who are unprepared for it are exposed to long-term regulatory and reputational risk. If your business is looking to respond to the UK's 2050 net zero target, you're going to need a clear resource to help you through the complex process of developing and implementing a commercial decarbonisation strategy.

This is why Alfa Energy founded [netzerocarbon.com](https://www.netzerocarbon.com), the home of everything net zero you'll need. Along with our partners and industry collaborators, we will be bringing you a step-by-step guide to strategy development and implementation, regulatory and compliance developments, best practice advice and examples from industry experts and your peers, and roundups of ongoing stories in business decarbonisation.

We aim to provide you with a clear, straightforward approach to achieving net zero emissions and all you'll need to develop your knowledge and understanding of the opportunities to deliver this critical objective.

