Climate Change Agreement for techUK

Note 01: What is a CCA? Revised April 2022

What is a Climate Change Agreement?

Climate Change Agreements (CCAs) were set up by the UK Government to encourage greater uptake of energy efficiency measures amongst companies in energy intensive industries. CCAs are part of the Government's policy to reduce use of energy and hence reduce CO_2 emissions.

Around 50 sectors are already covered and the scheme has been running since about 2001 over two phases. In return for a reduction in paying Climate Change Levy (CCL), participants are given energy efficiency targets. These targets are sector-specific so they can be tailored to what that sector can achieve. CCAs accommodate growth by focusing on energy efficiency instead of net reductions, they are particularly suited to drive efficiency improvements in sectors like data centres that are energy intensive, growing fast, and vulnerable to overseas competition.

Originally the current scheme was planned to run from 2013 to 2023 with four 2 year 'target periods' (TP1 – TP4). In 2020 a decision was made to extend this scheme for a further 2 year target period so adding TP5 to the scheme and ending in 2025.

Who is eligible for a CCA?

Sites, or facilities as known in CCAs, are eligible for a CCA if they either undertake a 'Part A' process covered by the 'Environmental Permitting Regulations', or, their sector/process has been deemed to be 'energy intensive' by the UK Government. A list of all the sectors that have a CCA and the associated eligibility criteria can be found in the CCA Operations Manual (https://www.gov.uk/government/publications/climate-change-agreements-operations-manual--2).

Data centre businesses providing colocation space (both wholesale and retail) are eligible. We agreed the formal definition of an eligible facility with BEIS in 2014 as below:

Box 1: The definition of the eligible process is where:
The business activity is the leasing or licensing of a data facility which is being used as a data centre.
"data facility" means a room, or rooms sharing the same electricity supply circuit, occupied mainly or exclusively by computer equipment which is enabled to transfer data electronically, and where in respect of the room or rooms—
(a) the temperature and humidity is regulated in connection with the operation of the computer equipment;
(b) the electricity supply is at least 200kW; and
(c) electricity is supplied by a back-up electricity supply when the mains supply is interrupted.

Who is eligible for a CCA? *cont.*

While the wording is somewhat obscure, it refers to colocation providers. A facility will be classed as colocation if it houses third party computing assets (i.e. servers). Space used to house servers that provide corporate IT function for the operator is ineligible. See *techUK Note 16 - Datacentre CCA eligibility.* Energy that is not used by the eligible process may only be included by applying the "70/30 rule". This rule allows the energy used by an entire site to be included in the CCA if the non-eligible energy is less than 30% of the total primary energy used at the site. Further information on the 70/30 rule is contained in *techUK Note 02 – Transferring Ownership of a CCA*.

What are the benefits?

From the Government's perspective the key benefits of CCAs are (a) to help achieve reductions in energy use and greenhouse gases (GHGs), and (b) to protect energy intensive industries from the tax burden of the CCL.

From the perspective of a company that has a site that is eligible for a CCA the benefits are very positive. They include:

a) **A significant discount on the CCL.** The table below shows the current rates of CCL and the maximum discount that can be obtained via a CCA. If you pay CCL, the value of being in a CCA is around £13.50 per tonne of carbon. This is due to up to 92% rebate on the CCL against electricity and 86% rebate on CCL against natural gas.

Fuel	CCL Rates from 1st April					Maximum discount due to a CCA	Maximum discount due to a CCA
	2019	2020	2021	2022	2023	From 1st April 2022	From 1st April 2023
Electricity (p/kWh)	0.847	0.811	0.775	0.775	0.775	92%	92%
Natural Gas (p/kWh)	0.339	0.406	0.465	0.568	0.672	86%	88%
LPG (p/kg)	2.175	2.175	2.175	2.175	2.175	77%	77%
Coal (p/kg)	2.653	3.174	3.64	4.449	5.258	86%	88%

Taken from: https://www.gov.uk/guidance/climate-change-levy-rates Updated 4 March 2022

b) **Energy saving benefits.** CCAs drive energy efficiency improvements and where this happens this will result in energy cost savings. In many cases the energy cost savings are greater than the CCL discount.

c) **Corporate image benefits.** Many companies have sustainability targets and Corporate Social Responsibility programmes that include targets for reducing GHG emissions. Achieving CCA targets can provide a useful input into such programmes.

What are the benefits? *cont.*

The CCA has major implications for the UK Data Centre Sector: These include:

1. Formal recognition of the sector by Government

The CCA is an important milestone for the UK Data Centre Sector because it is more than a tax concession. It is also formal recognition by government that the data centre sector exists and will be here for the foreseeable future, that it is important and that it is a significant contributor to the UK economy, to growth and jobs. The Chancellor has also recognised the importance of protecting future investment and growth by, at least partially, levelling the playing field for UK operators competing with their counterparts overseas. The CCA adds some much needed stability to the policy landscape and also, with data centres now firmly on the policy radar, will set the scene for constructive policy dialogue going forward.

2. Greater investor confidence in the sector

The CCA provides a greater degree of policy certainty for those wishing to invest in the UK sector and for UK operators considering expansion. Data centres are eye-wateringly complex and expensive to build and those who do so need to know that the business model they invest in will be competitive in five, ten or fifteen years' time. The UK's complex and volatile climate change policy landscape created uncertainty and cost and acted as a barrier to expansion and inward investment. The CCA encourages greater confidence in the UK as a location of choice for data centres.

3. Improved competitiveness

With the capability to invest in energy efficiency measures, companies will be able to realise financial savings as their energy performance improves. This in turn improves competitiveness as they can deliver services to their customers at lower cost. They can also provide evidence of good energy stewardship (see below) which is increasingly becoming a requirement in procurements.

4. Better energy stewardship in the sector

Having a CCA really can change behaviour. The CCA provides compelling incentives to improve efficiency through a simultaneous carrot and stick – tough targets while providing companies with the means to invest in efficiency measures. Improved energy stewardship in the UK data centre sector will be realised in the following ways:

- Greater transparency regarding the way that energy is used in the sector, dispelling the confusion that arises between power provisioning and energy use and from multiple site occupancy.
- Greater consistency in the way that PUE is measured in the sector because the CCA obliges a more standardised approach than is currently applied in the industry.
- Greater investment in efficiency measures because the rebate and incentives strengthen the business case.
- Behaviour change driven by bespoke targets that are designed to drive change where it is most needed and can be escalated if need be.
- Greater collaboration, innovation and best practice driven by the sector-based approach.

5. Increased consolidation and outsourcing of IT function

The CCA will encourage the consolidation of computing resource from a "distributed" model (servers in cupboards and box rooms) into larger, purpose built, efficient facilities. This single act can reduce energy demand by two thirds. To some extent it will also encourage outsourcing to third parties as companies reviewing their IT estate consider what to do with their server rooms and distributed computing assets. Levels of outsourcing in the UK are relatively low compared to other markets due to three factors – historic lack of availability, the predominance of the financial services market and a cultural reluctance to move servers out of immediate control - usually described as "server hugging". While the natural progression of the UK market is towards consolidation and outsourcing, the CCA is likely to accelerate this trend.

Is it, like, free money?

No. Under a CCA you are given a target to reduce your energy consumption relative to the IT energy use. The sector target has been agreed as a 4.539% reduction in PUE by 2022 from a 2018 baseline. To spread the reduction requirement more fairly and avoid punishing early adopters who already have a low PUE, this sector target has been amortised over the industry based on the application of a universal requirement to reduce non-IT energy by 10.841% . Individual site targets will be expressed in terms of a reduction in site PUE over the same period but will depend on how the baseline PUE for that site compares to the baseline PUE for the industry which is set at 1.72. For data accuracy, CCA PUE is multiplied by 1000, so the sector PUE of 1.72 will be expressed as 1.720.000 (See box 2 for example baseline comparisons). Sites with higher PUEs will have to make larger reductions than sites with lower baseline PUEs. PUE is be measured on the basis of total energy to site divided by total energy to the IT The target is designed to allow growth while encouraging good energy stewardship.

Box 2: *The 10.841% reduction in non IT power is a clever way of amortising the target fairly over the sector but the individual targets, just like the sector targets, will still be expressed as a required reduction in PUE. Your target reduction will depend on how your baseline PUE compares to the sector average for 2018. So....*

If your baseline PUE is	Baseline PUE expressed as CCA PUE	Then YOUR target end 2022 is	Your final PUE should be
1	**1000.000**	0.00%	**1000.000**
1.5	**1500.000**	3.61%	**1445.794**
2	**2000.000**	5.42%	**1891.589**
2.5	**2500.000**	6.51%	**2337.383**
3	**3000.000**	7.23%	**2783.178**

What do Companies have to do to gain these benefits

Each site or company that has a CCA is given an energy saving target, either measured relative to factory output (e.g. kWh per tonne of product) or just absolute energy use (e.g. kWh). Some sectors have agreed that savings can be measured in carbon as well as energy. The target is set as a series of efficiency improvements compared to a "base year" (usually 2008 for TP1-TP4 and 2018 for TP5).

Each "target period" is two calendar years in duration as illustrated in the timetable below. At the end of the target period the energy efficiency performance is assessed and compared to the target that has been set. If the target is achieved then the CCL discount is retained for the next two year period.

If you fail to meet a target all is not lost. There is a "buy-out" mechanism that is explained on the next page.

Climate Change Agreements (Updated Feb 2021)	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	###
1st Target Period 2013-14	Jan 2013 - Dec 14												
CCL Discount for meeting 1st Target			Jul 15 - Jun 17										
2nd Target Period 2015-16			Jan 2015 - Dec 16										
CCL Discount for meeting 2nd Target					Jul 17 - Jun 19								
3rd Target Period 2017-18					Jan 2017 - Dec 18								
Reporting 3rd Target Period						2017: Jan-Apr	2018: Jan-Apr						
CCL Discount for meeting 3rd Target							Jul 19 - Jun 21						
4th Target Period 2019-2020							Jan 2019 - Dec 20						
Reporting 4th Target Period								2019: Jan-Apr	2020: Jan-Apr				
CCL Discount for meeting 4th Target									Jul 21 - Jun 23				
5th Target Period 2021-2022									Jan 2021 - Dec 22				
Reporting 5th Target Period										2021: Jan-Apr	2022: Jan-Apr		
CCL Discount for meeting 5th Target											Jul 23 - Mar 25		

The target is always a series of steps towards better energy efficiency over the milestones, compared to base year performance. For example the steps could require an improvement of 5% at the first milestone followed by 3 further steps of 3% each. As the final 5th target period has a newer base year period, targets have also been reset to reflect the % improvement that could reasonably be expected to be achieved over the shorter period from 2018 base year to the end of 2022.

What if we fail to meet our target?

If you fail to meet your efficiency target then you have to 'buy out' enough carbon to make up the difference between your target and what you have actually achieved. There is one target period remaining in the current scheme, Target Period 5 (TP5) and carbon will need to be bought after the end of TP5 which finishes on 31st December 2022 if the target is missed. The buy-out price for carbon for TP5 is £18 per tonne.

The table below (in Box 3) shows the current impact of buying out carbon for a data centre with an annual power use of 10,000 MWh, equating to an energy bill of around £1M, under different scenarios

Box 3: Illustrating buy-out costs

Here are some scenarios illustrating the difference between the benefits per two year target period and the buy-out costs if you fail to meet your two year target. CCL rebate benefits are shown, plus total benefits for each two year target period This two year total needs to be set against the total buy-out cost for the period. The scenarios show the impacts if no improvement is made but the individual figures work if you fail to make progress in the period.

Annual energy use and % target PUE reduction	Tonnes CO_2 emitted annual	CCL rebate annual	Total benefit / 2 year target period	Scenario	Total buy out costs 2 yr target period (end 2022)
10,000 MWh Target 3.026%	5,205	£71,300	£142,600	Zero improvement	£5,688
10,000 MWh Target 4.539%	5,205	£71,300	£142,600	Zero improvement	£8,514
10,000 MWh Target 5.447%	5,205	£71,300	£142,600	Zero improvement	£10,224

Based on CCL at 0.775p per KWh (rebate at 0.713p)

Can I register now to join the scheme?

The eligibility criteria for data centres to have a CCA became law on 1st July 2014. The Sector Agreement, confirming a sector target of 15% reduction in PUE, for the first four target periods ending 2020 was signed by techUK on 14th July 2014. 98 sites were registered for the scheme in 2014 and the registration process opened for subsequent target periods in January 2015, allowing entrants to join up until October 2018.

The scheme was initially due to include just these four target periods however due to time constraints in scoping a replacement scheme, the government decided to extend the current scheme for an additional period, Target Period 5 (2021/2002). This fifth period allowed a window of opportunity for new entrants to apply in Autumn 2020 but is now closed to new applications, so it is not possible for new sites to apply to join the current period.

Existing CCAs can, however, be transferred to new operators if the ownership of a site holding a CCA changes. You do not need to be a techUK member to participate in the CCA. Each transfer application is sense checked by our technical helpdesk and then reviewed and approved by the Environment Agency (EA). Once approved, the EA issue an Underlying Agreement (this is an individual agreement for each participant) and as soon as the participant assents to that Agreement, they can claim their tax rebate We have to sign agreements because we have to undertake to meet efficiency targets.

Note: transfer of ownerships should be submitted to the EA for approval within 20 working days of the change taking place and there are a number of documents that need to be prepared in support of the application. Please refer to Guidance Note 02_Transferring Ownership of a CCA

So what should we be getting on with if applying for a change of ownership?

Firstly you should check that the site is still eligible by contacting the SLR helpline. Then you need to check that you have auditable historic data which should be provided in an evidence pack from the previous operator. If this has not been passed on, all is not lost. The helpline will be able to advise of possible solutions. Next you need to prepare and submit your application to the helpline. The helpline are happy to review partially completed applications to check that you are heading in the right direction with content.

What if we buy certified green power?

CCL exemption for certified green electricity sources ceased in August 2015.Green power is now subject to CCL in the same manner as 'brown' power from the grid.

What about ETS?

ETS takes priority over CCA so if you are captured under UK ETS then your scope 1 emissions still have to be reported under ETS. This excludes electricity which is scope 2.

Who are the key organisations involved in CCAs?

The Government has set up CCAs in "industry sector groups". There are separate CCAs for each main industrial sector. This approach allows the CCA energy efficiency targets to be customised to the circumstances of each industry sector. A "lead body" in each sector, usually the relevant Trade Association, is responsible for operating their sector's CCA. There are currently 51 separate sector CCAs covering around 10,000 individual sites, a list can be found here: *https://www.gov.uk/climate-change-agreements--2#sector-associations-with-ccas*.

A number of different organisations play important roles in the operation of your CCA. The key players are as follows:

BEIS (Department for Business, Energy and Industrial Strategy)
Are the Government department responsible for CCAs. They have responsibility for policy development and decisions regarding CCAs and for target negotiations.

Environment Agency (EA)
The EA administers the CCAs on behalf of BEIS. They are responsible for the day to day operation of CCAs, using the policy set by BEIS. They are responsible for registering every CCA and ensuring that every company complies with the requirements of CCAs. They are also responsible for issuing penalties to any company that has breached certain rules.

HM Revenue and Customs (HMRC)
HMRC are responsible for checking that the CCL discount is claimed correctly.

techUK
techUK run the CCA for the data centre sector and act as a key point of contact for negotiations between the sector, BEIS and the EA. They play a crucial strategic role to ensure that the CCA rules are fair and reasonable for companies in the data centre sector and that targets are set in a fair and appropriate way.

SLR
SLR carry out the detailed administration of the techUK CCA on behalf of techUK. They are responsible for all "day to day" activities such as processing applications, dealing with variations, gathering annual energy and production data from each facility and helping ensure that any companies that fail to meet a target are given appropriate information so that they can retain the CCL discount. SLR also provide on-going technical and administrative support to CCA participants via a telephone help desk and a dedicated CCA website page (see next page).

techUK's Climate Change Agreement is managed by techUK with SLR Consulting providing a technical helpdesk on behalf of techUK. techUK remain the point of contact for any policies issues with BEIS. You do not need to be a techUK member to participate in the CCA . Please get in touch if you are not sure whether you are eligible (contact details on next page).

For further information please contact SLR's techUK CCA helpdesk:

+44 (0)844 800 1880

techUK@slrconsulting.com

or visit www.techuk.org/developing-markets/data-centres.html

The full suite of techUK CCA Guidance Notes are listed below and can be accessed via contacting the helpdesk or visiting the website.

Guidance Note	Title
1	What is a CCA
2	Transferring Ownership of a CCA
3	techUK CCA Administration Charges
4	Completing HMRC PP10 and PP11 Forms
5	Timetable of techUK CCA Activities
6	Obligations under your CCA including audits
7	Reporting data at each Target Period
8	How CCAs interact with other schemes
9	Glossary and Abbreviations
10	What happens if...
11	Submetering and base year
12	Measuring Generator Fuel
13	State Aid Transparency reporting
14	Penalties for non compliance
15	Application Documentation
16	Data centre CCA eligibility