

Environmental Charges: Shifting the Balance

May 2020

Prologue

Optimised Energy has its roots in the heart of British industry, having been a trusted advisor to UK businesses from London to Edinburgh for more than a decade. As Optimised Energy continues to scale up both the breadth and depth of service delivery, this publication provides the opportunity to share critical insights from the energy market with our clients and prospects.

The retail energy market shows constant variation, with commodity markets fluctuating to reflect global events, and legislative changes happening regularly to accommodate the all-important shift towards the UK's carbon neutral targets. It is hardly surprising that contract renewals are fraught with potential pitfalls, and timing your tender can have huge effect on your final cost per unit.

This review focuses on the shifting balance between commodity costs and third-party charges (TPCs) on typical business energy bills. The trajectory of TPCs means they have become increasingly influential on overall cost, as they now exceed the commodity proportion of the average unit rate.

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Introduction

Despite a significant majority of commercial electricity and gas renewals occurring in October, April is often viewed as an equally important date in the calendar for those concerned with electricity and gas procurement. This is the time when many of the third party charges (TPCs) are updated for the forthcoming year and new charges are often introduced.

While previously, the commodity proportion of the unit rate made up the lion's share, since 2016 we have seen TPC's taking over as the more costly element. This is demonstrated in Figure 1, below. Predictions for 2020-21's final costs suggest the commodity could account for as little as 35%, emphasising the importance of TPC management in cost avoidance moving forward.

These forecasts take into account our risk management team's anticipated decrease in commodity costs resulting from the global impact of the Covid-19 crisis.

The aim of Optimised Energy's review is to provide simple insight and explanations on the major TPCs and to show data on what changes have been implemented in recent years, with a view to ultimately assisting Clients on how best to manage these charges to reduce their impact.

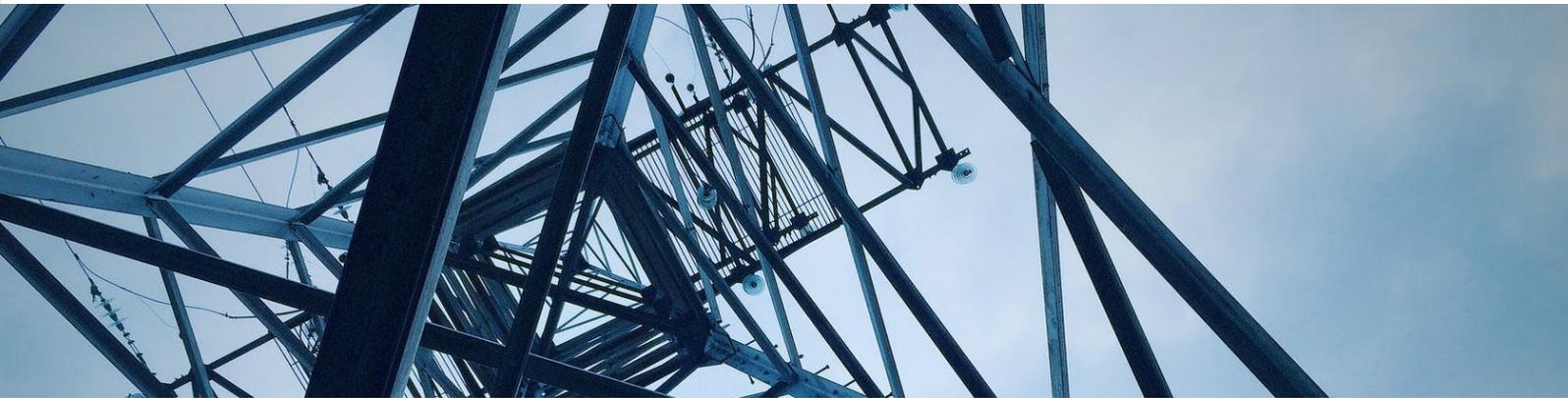
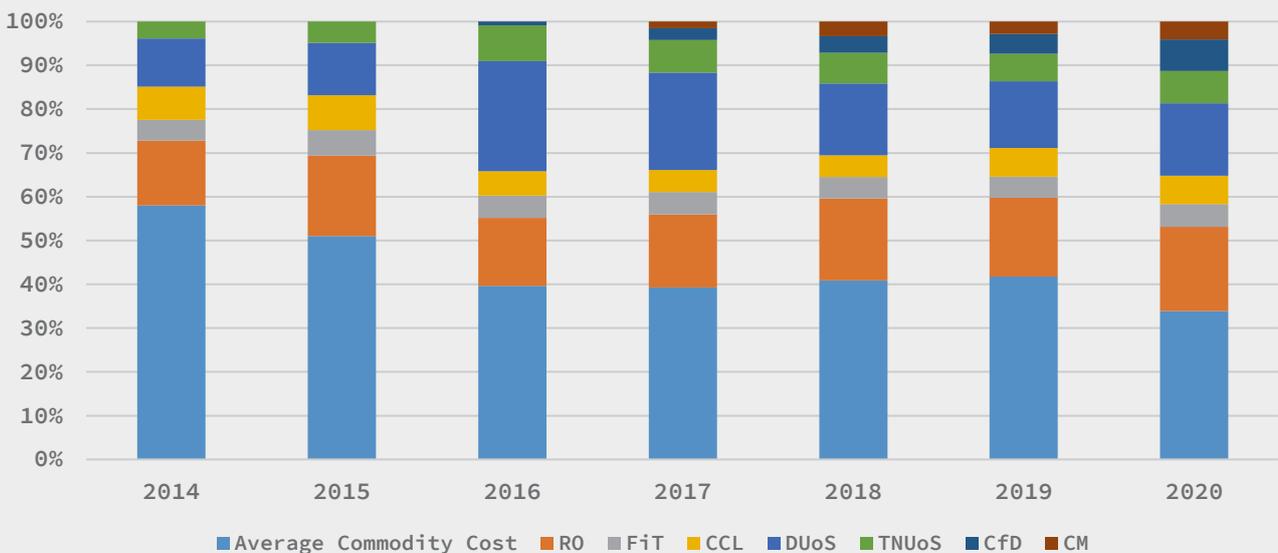


Figure 1: Trajectory of Energy Costs (2014-2020)



Renewable Obligation (RO)

In order to meet the UK's climate change commitments, and with a view to building a sustainable energy future, the government in conjunction with energy supply companies have a requirement to invest in and support low-carbon energy generation. Suppliers are also obliged to source a greater proportion of the energy that they supply from renewable sources.

The Renewables Obligation (RO) charge was introduced in 2002 to cover the cost of this scheme, and is spread across both business and domestic electricity consumers. The charge is levied on all electricity invoices, per billed unit consumed, either as a separate item, or through a provision in the contracted unit rates. In 2020 the charge will exceed 2.35p/kWh, and is still the most substantial non-commodity charge. From the start of our review period until present, the RO rate has increased by over 44%.

Figure 2 also shows the forward projections for the charge in the near future, with a relatively flat trajectory from 2020 to 2021. This is a result of an unexpected increase to costs in 2020, caused by the collapse of many smaller suppliers, meaning the remaining suppliers are obliged to pick up their shortfall.

Feed in Tariff (FiT)

The Feed-in Tariff (FiT) is a government scheme introduced in April 2010 which provides funding for small-scale renewable generation projects such as solar photovoltaics or anaerobic digestion plants. The scheme provides payment for any eligible metered generation they produce.

The scheme is subsidised by all electricity end-users, and suppliers levy these FiT charges on their invoices on the government's behalf. The charge is applied either by passing it through as a separate item on the billing, or by including a provision in the contracted unit rates. Either way, every electricity consumer pays the charge for every unit of electricity they use. The 2019/20 rate equated to an average of approximately 0.63p/kWh.

The FiT initiative has proven extremely popular and uptake has been high. Cost per unit levied has thus risen since its introduction, a trend set to continue as the government consider the possibility of exempting Energy Intensive Industries (EII) from paying this charge. FiT also comes with some difficulty in prediction, as the volume of energy produced is largely dependent on levels of sunshine.

Figure 2: Annual Change in RO (2014-21)

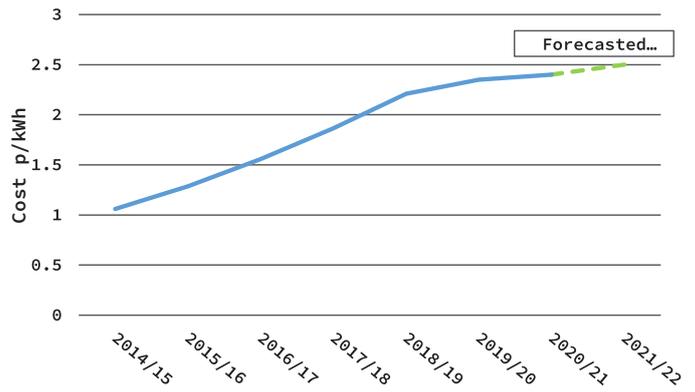
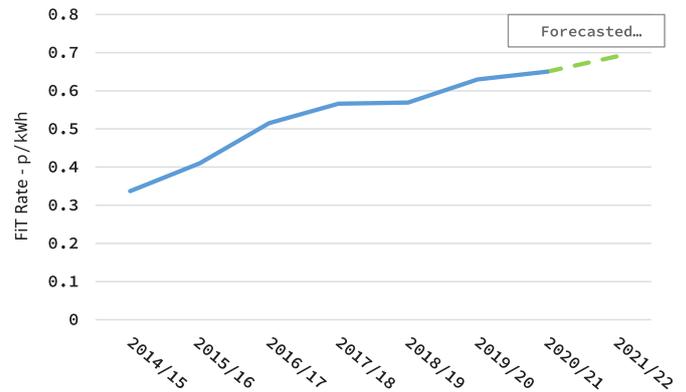


Figure 3: Annual Increase in FiT (2014-21)



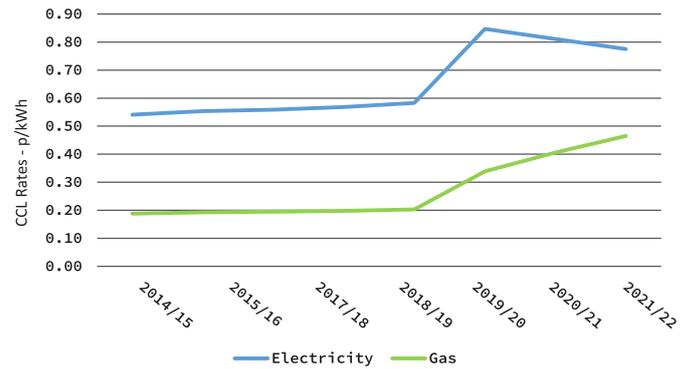
Climate Change Levy (CCL)

CCL is a tax introduced by the Government in 2001 to incentivise large energy consumers to reduce energy usage and emissions. CCL is applicable on all electricity and natural gas supplies and all businesses are liable to pay unless they either fall below the consumption threshold or are eligible for relief through one of the Government's carbon reduction schemes for businesses. The current rate is 0.811p/kWh for electricity and 0.406p/kWh for gas.

The rates of CCL charged are set by the UK Government each year and have increased consistently year on year. April 2019's rates saw a significant jump following the termination of the Carbon Reduction Commitment (CRC) scheme – this year, the electricity rate increased by 45%, while the gas rate increased by 67%.

Previously, rates had increased by an average of 2% every April. The future CCL rates are published a year in advance, and we have included these in Figure 4.

Figure 4: Annual Change in CCL (2014-2021)



From April 2020 onwards, we see a slight decrease in electricity's CCL costs, compared to an increase in gas. This is designed with the intention of levelling out the CCL charges levied against both commodities over time.

Distribution Use of System (DUoS)

All electricity supplies, both business and domestic, incur distribution (DUoS) charges. These are collected by electricity suppliers and passed through to the regional distribution network operator (DNO) to cover the costs of delivering electricity from the national transmission system to the meter point. This is used to cover the installation, operation and maintenance of the regional distribution network to ensure that all equipment is safe and reliable. Because DNOs hold a monopoly in their regions, charges are strictly regulated by OFGEM. Charges are amended annually in April and must be published and approved in advance of application. Like many pass-through charges, DUoS can either be displayed separately on invoices or rolled into the contract unit rates. Types of DUoS charges include:

- **Pence per unit rates** depending on consumption at different times of the day. Generally red charges (the most expensive) cover peak usage, amber charges cover daytime and green charges (the least expensive) cover weekend and night usage.
- **Fixed standing charges.**
- **Available capacity charges**, to ensure enough capacity on the local network to support site need.
- **Reactive power charges** for unproductive power.

Currently, these items make up approximately 16% of the average electricity bill, however this percentage can vary significantly depending on where any given site is located and the site specific supply characteristics.

Figure 5: DUoS High Voltage Red Rates across Regions

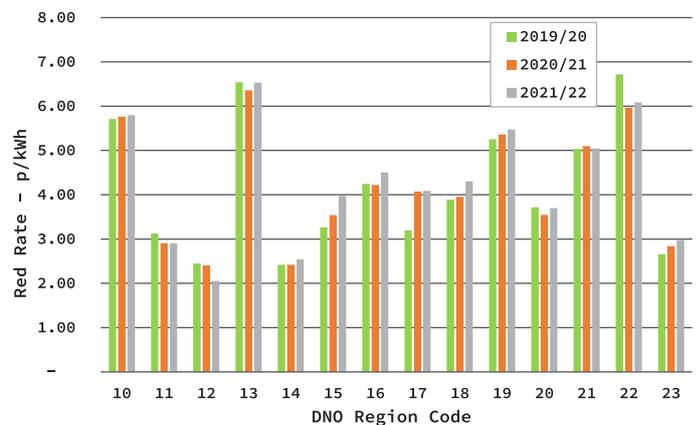


Figure 5, above, shows how red time DUoS rates have changed for High Voltage (HV) sites over the last 3 annual cycles. There are large variances in costs that exist between different geographical locations, as well as the inconsistencies in percentage changes year on year, illustrating how problematic it can be to try and predict future costs. Whilst this is only one of the DUoS charging areas, for many sites this is the most onerous.

While historically, DUoS costs have seen a general trend of increase each year, these charges will come under the Targeted Charging Review (TCR) in April 2022. This is a scheme aimed at shifting the majority of the cost from residual (i.e. p/unit) to fixed monthly charges. It is predicted this will cause an initial increase, but allow rates to remain much more stable in future years, as incentive for consumers to load shift to avoid the costly red time band is reduced.

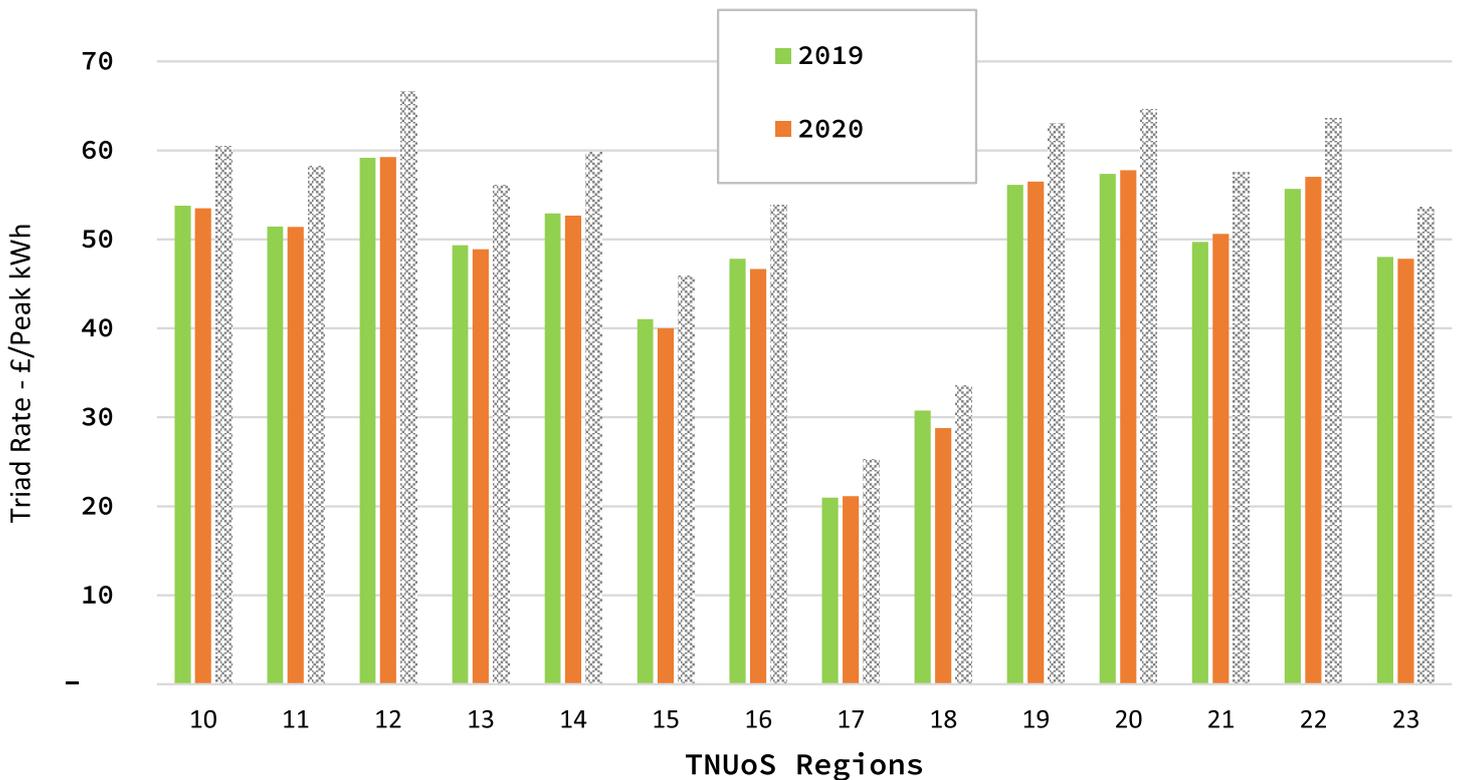
Transmission Network Use of System (TNUoS)

Transmission Network Use of System Charges (TNUoS) are raised by the National Grid to recover the costs of installing, maintaining and transmitting electricity around the UK. Costs are recovered from both generators and consumers and the charges vary depending on a consumer's geographical location.

There are 14 demand tariffs that cover the whole of the UK (which mirror the 14 distribution network regions) and charges are revised annually in April. TNUoS for end users is currently based on a site's Triad demand. Triads are the three peak system demands measured each year between 16.00 to 19.00 in November to February, separated by at least ten clear days. National Grid publish the three peak demand periods annually in March. Users with a 'pass through' supply contract should receive a reconciliation from their supplier after the Triads are published in March for the previous year. If a business has a fully fixed contract then there is no reconciliation although the triad demand will be used to estimate the triad cost to be built into any subsequent renewal contracts. Figure 6 illustrates the TNUoS rates across the regions for the last 2 years including the forecast for 2021/22.

Whilst TNUoS and Triad avoidance – switching off during the predicted winter peaks – has traditionally been a mainstay in managing energy costs for large consumers, the TCR in April 2022 means this will no longer be profitable. As mentioned in the DUoS section of this publication, the TCR is designed to shift the majority of costs from residual to monthly standing charges. This means although the three triad peaks will be recorded, the majority of TNUoS costs will be recovered via a fixed monthly charge applied to users' invoices. Ofgem have not published specifics on how these charges will be calculated yet, but Optimised Energy's expectation is that it will be based on both usage and ASC levels.

Figure 6: TNUoS Rates Across Regions

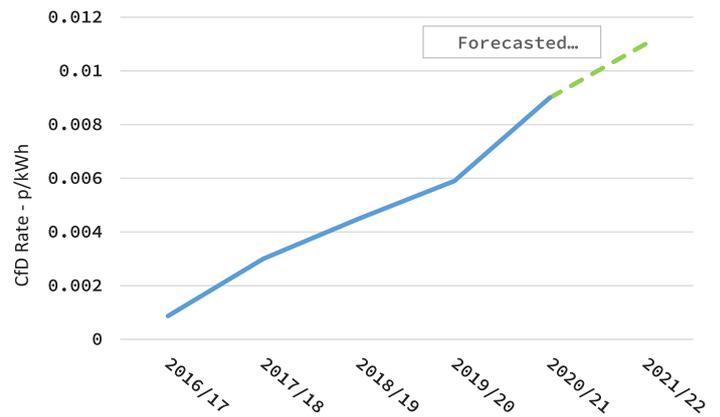


Contracts for Difference (CfD)

CfD is the newest subsidy scheme to incentivise renewable generation and was introduced in April 2015. This scheme is the long-term replacement for RO although the two will run concurrently until 2037. A CfD rate is applied to every unit consumed, as either a separate pass through charge, or fixed and included within the user's unit rates.

Currently, charges are relatively low, however, as more projects under the scheme come online, costs are expected to grow. CfD costs also increase as wholesale costs decrease, as contracts are designed to pay generators the difference between their agreed strike price and the market value. This has been taken to account in Figure 7's forecast for 2021/22's CfD rate, particularly as the Covid-19 pandemic sees commodity markets drop.

Figure 7: Annual CfD Rate (2016-2021)



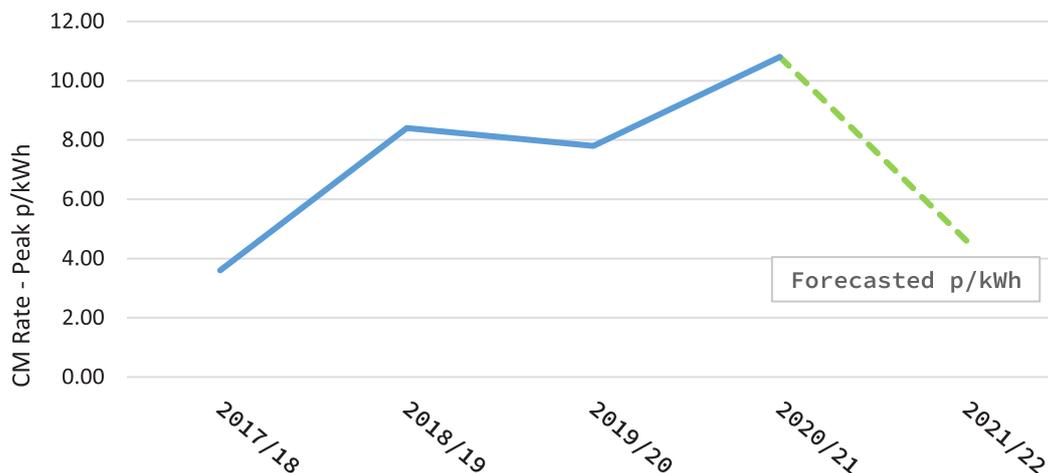
Capacity Market (CM)

Capacity Market (CM) is also part of the Government's package of Energy Market Reforms (EMR) designed to ensure that the UK has sufficient capacity on the grid at peak demand times. The scheme will pay generators (not remunerated under the CfD or RO) to either deliver capacity when needed or reduce demand with prior notice. The CM operates as an annual auction for generators to bid to provide energy up to four years in advance with a top up auction one year ahead of delivery. The charge was initially very small but has increased rapidly and will continue to increase for the foreseeable future. Consumers pay the costs for this scheme via a premium rate applied to peak usage recorded between 16.00 and 19.00 on working days between November and February. Traditionally, this would have also been the triad period, and consumers could see an increased benefit from load shifting out of these periods as CM costs continue to rise.

In recent years, CM has been relatively high, owing to the number of small suppliers who ceased trading, leaving a shortfall in CM payments. Remaining suppliers and their clients were then obligated to pick up these costs.

Figure 8 shows CM costs reach a peak in winter 2020/21, which can be attributed to the variations in auction prices achieved by generators each season. More recent auctions have seen record lows in the prices agreed, following the temporary suspension of the scheme while it was investigated regarding EU guidelines for state aid.

Figure 8: Annual CM Rate for Peak Usage (2017-2021)



Managing Third Party Charges

RO	RO can be managed through energy procurement strategy by securing different contract types. 'All inclusive' contracts where TPCs are included in the unit rates can provide protection against increases through the contract term, however, pass through contracts where the item is shown separately and passed through at the prevailing rate are usually the most cost effective as they eliminate supplier risk premiums.
FiT	As with RO, FiT can be managed through procurement and different contract types. All-inclusive contracts can provide protection if budget certainty is the priority however if securing the lowest possible cost is the main objective pass through contracts will eliminate supplier risk premiums and should provide lower costs.
CCL	As the different climate change schemes available continue to evolve, the CCL discount a user may be entitled to can change. Optimised Energy's procurement and engineering team are highly experienced in assessing sites for eligibility, as well as keeping track of updates in legislation. We would advise users to speak to our teams to ensure they are taking advantage of all the opportunities available to them, and minimising the impact of CCL on their energy invoices.
DUoS	<p>There are two primary means of managing DUoS costs:</p> <ol style="list-style-type: none"> 1. Procurement strategy - 'pass through' contracts with the charges shown separately will eliminate supplier premiums and are usually the most cost effective option given current forecasts. 2. If the charges are shown separately they can be managed. Significant savings can potentially be achieved through (zero or low cost) demand side management activities, though this opportunity will be limited once the TCR takes effect in April 2022.
TNUoS	<p>There are two primary means of managing TNUoS costs:</p> <ol style="list-style-type: none"> 1. Procurement strategy - 'pass thro st cost effective option given current forecasts. 2. The management of peak 'red' consumption would also reduce triad consumption, as triads always occur at peak demand times in the winter. As noted for DUoS, this exercise will have less financial impact following April 2022's TCR, and we would be happy to advise Clients on how they can manage their TNUoS costs going forward as more information is made available.
CfD	As with RO and FiT, CfD can be managed using procurement strategy. All-inclusive contracts provide certainty when budget forecasting is the priority, and pass through contracts with the charges passed through separately at the prevailing rates are usually a means of securing lower costs depending on price forecasts and risk tolerance.
CM	In the way users have traditionally shifted load out of peak periods to avoid Triad costs, the same could be said for CM moving forward. As the majority of this charge is based on usage between 16.00 and 19.00 on working days between November and February, Optimised Energy can work with Clients to calculate the cost benefit of moving usage out of these time periods.

Optimised Energy
109-112 Lancaster House
Amy Johnson Way
Blackpool
FY4 2RP

Tel: 01253 209000
Email: info@optimisedenergy.com



optimisedenergy.com

