

Electricity Charges are Changing – Are You Ready?

With energy prices soaring and uncertain energy security, managing energy is now more critical than ever. Part of that management is understanding how electricity charges are calculated and applied to our bills. Over the next two years, the charging structure for our electricity bills will change, with the first set of changes taking place in April 2022, and the second in April 2023. Within this article, we will explain the changes and how they will apply and look at steps to ensure you are being charged correctly.

The way in which we use and generate electricity is changing. With more focus on decarbonisation, organisations are seeking to install onsite renewable generation, switch fleets to electric vehicles, and shift heating from fossil fuels to electricity. This has created a shift in electricity demand. These changes have led Ofgem to produce the [Targeted Charging Review \(TCR\)](#) initiative which reviews the way in which costs across the network are recovered fairly.

Electricity costs are made up of a series of separate charges and applied to the electricity we use. Most of these charges apply to the actual volume of energy we consume, with the remaining charges being applied to the amount of capacity that we have within our local network.

Part of these charges cover the costs for maintaining, improving, and building the infrastructure through which our electricity is transported, as well as the costs for transporting the electricity from the generator through to your premises at different times of the day.

At the time of writing, the high and variable cost of energy sits within the consumption costs and is applied to the volume of energy consumed. These costs are levied by the suppliers and reflect the high wholesale cost of oil and gas. It is worth noting these costs are separate from the costs described within this article.

Electrical Infrastructure

In a very simplistic view, the electrical infrastructure across the UK is split into two parts. The first is the main infrastructure, which takes generated electricity from the [generator](#) to a distribution centre. This core element is referred to as the [National Transmission Network](#) and is managed by the National Grid. Once the energy is moved to the distribution areas, the Distribution Network Operator (DNO) is then responsible for the infrastructure that transports the energy into local areas. Across the UK, there are several DNOs that manage the local infrastructure within different regions.

Electricity Distribution



Suppliers purchase electricity from generation companies on behalf of their clients. Through this purchase, the supplier is charged by the National Grid for the Transmission of the electricity within the National Network, as well as the Distribution Network Operator (DNO) who delivers the electricity from the distribution area to your premises. These charges are passed on to us as the 'final demand customer' and are shown as DUoS and TNUoS charges. For organisations that have 'Pass Through Contracts', (typically applied to premises with a half-hourly meter) these charges are itemised on your statement. For organisations that have fixed-price contracts, these charges are summated and included within your standing charge and time of use charges.

DUoS – Distribution Use of System charge

This charge covers the cost of installing and maintaining the local distribution network and is recovered by the DNO. Your charge is based on the amount of electricity you consume at your premises and has a varied rate based on the time of day you consume the energy. These time rates are denoted by colours and represented as:

- Red, where there is the highest demand on the grid and is between 16:00 and 19:00 weekdays.
- Amber, where there is a moderate to high demand on the grid and is between 07:00 and 16:00, and 19:00 and 23:00 weekdays.
- Green, where there is low to moderate demand on the grid and is between 23:00 and 07:00 weekdays, and 00:00 to 24:00 weekends.

TNUoS – Transmission Network Use of System charges

This charge covers the cost of installing and maintaining the transmission systems in England, Wales, Scotland and offshore, and is recovered by the National Grid. The charge is applied to your proportion/share of the total demand on the transmission network during its peak periods.

The current calculation of these peak periods is referred to as Triads, which occur between the 1st November to the 28th February every year, when demand on the Grid is at its highest. The three highest peaks of electricity demand between these dates are taken and the average is used to calculate the charge applied to the organisation for the year coming year.

Changes being made

Currently, charging within the DUoS and TNUoS has been levied against the time of use, with some charge towards capacity. However, the new changes being made are shifting the charges towards capacity and higher fixed costs and reducing the time of use charges. This is to reflect the use of the Grid and ensure that all organisations are charged more fairly, based on the proportion of energy each organisation takes up in comparison to the total energy usage.

The main change is the introduction of four charging bands. The band within which an organisation will fall will depend on whether the site has a non-half hourly meter (NHH) or half-hourly meter (HH) and will be measured by either the average annual consumption or the average capacity averaged over a two-year period, respectively. The cost applied to the band is set by your DNO and will therefore vary depending on location. You can check the applicable costs by searching for your DNO's 'Use of System Charging Statement'.

Voltage of Connection	Band	Units	Lower Threshold*	Upper Threshold*
Domestic Aggregated	Single band	-	-	-
Designated Properties connected at LV, billing with no MIC	1	kWh	0	3,571
	2	kWh	3,571	12,553
	3	kWh	12,553	25,279
	4	kWh	25,279	∞
Designated Properties connected at LV, billing with MIC	1	kVA	0	80
	2	kVA	80	150
	3	kVA	150	231
	4	kVA	231	∞
Designated Properties connected at HV	1	kVA	0	422
	2	kVA	422	1,000
	3	kVA	1,000	1,800
	4	kVA	1,800	∞
Designated EHV Properties	1	kVA	0	5,000
	2	kVA	5,000	12,000
	3	kVA	12,000	21,500
	4	kVA	21,500	∞

The image above shows the thresholds for the four charging bands. Domestic meters have a single band only. For all non-domestic meters, the four band thresholds are shown with lower and upper limits. All lower limits are inclusive within the band while upper limits are not. Properties connected at LV with no MIC refer to NHH meters. For reference: LV – Low Voltage, HV – High Voltage, EHV – Extra High Voltage and MIC – Maximum Import Capacity.

This first set of changes will happen to the DUoS charging system and is set to take place from 1st April 2022. From 1st April 2023, the change to the TNUoS charges will take effect and will change the Triad calculation to a fixed cost, with the rate of change set according to your charging band.

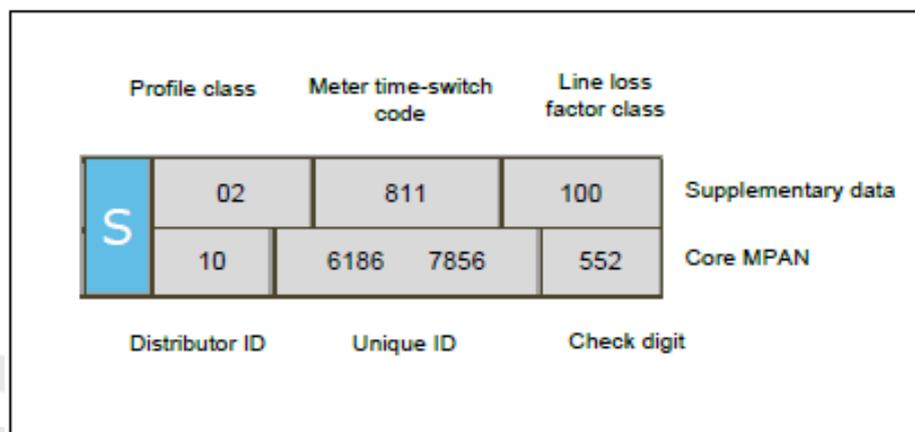
What does this mean overall?

The changes being introduced will have a varied impact depending upon how you are metered in conjunction with energy consumption (NHH) or total capacity (HH). The fixed costs will increase for most organisations, but this will be offset by the reduced time of use charges. The higher the band, the higher the costs levied against your electricity bill.

For organisations with HH meters, the changes to the charging bands mean that you are being charged on capacity rather than consumption. As such, it is important to ensure that you have the correct level of capacity. Review your available capacity to ensure that it is correct for your organisation. For organisations that operate Triad avoidance, from April 2023, these avoidance measures will no longer have an impact.

How can I check what charges will apply to me?

Distribution charges are charged for the transportation of electricity to a meter point. All meter points are given a unique number referred to as an MPAN (Meter Point Administration Number). This MPAN is a 21-digit number that carries a series of supplementary information and will dictate how you will be charged. Your electricity bill will include an image of your MPAN, which can also be found on your meter. It is important that you check that your utility bill's MPAN and your meter's MPAN match.



The three main number elements to look at are the 'Distributor ID', the 'Line Loss Factor Class (LLFC)', and the 'Profile Class'. The

1. **Distributor ID** identifies your Distribution Network Operator (DNO). Your energy company will be able to inform you who your DNO is, or you can find a list on their website. In this example, ID 10 is for the East of England, for which UK Power Networks is the DNO. UK Power Networks also covers London and the South East, although these areas will have different ID numbers.

- Profile Class** determines the type of meter you have. While this can be useful information to know, for the purpose of this article, the main profile class '00' denotes a half-hourly (HH) meter. Any other number combination would typically reflect a non-HH meter.
- LLFC** identifies the charging structure for your meter point, as this number will be used as the identifier to determine which charging band you are in.

Once you know who your DNO is, search for their 'Use of System Charging Statement' and you will find the relevant webpage with a copy of the statement, a PDF document that details how charges are applied, along with a spreadsheet with the charging rates. There is also a charge calculator in the spreadsheet you can use – but please note this does not calculate the consumption rates, only the DUoS charges.

Tariff name	Open LLFCs	PCs	Red/black unit charge p/kWh	Amber/yellow unit charge p/kWh	Green unit charge p/kWh	Fixed charge p/MPAN/day	Capacity charge p/kVA/day	Exceeded capacity charge p/kVA/day	Reactive power charge p/kVAh	Closed LLFCs
Domestic Aggregated with Residual	1	0, 1, 2	15.429	0.657	0.122	16.23				3,7, 11, 25, 40, 43, 46, 58
Domestic Aggregated (Related MPAN)	2	2	15.429	0.657	0.122					22, 29, 55, 61
Non-Domestic Aggregated No Residual	199	0, 3, 4, 5-8	14.288	0.608	0.113	4.20				
Non-Domestic Aggregated Band 1	201	0, 3, 4, 5-8	14.288	0.608	0.113	5.33				200, 205, 254, 15, 49, 237, 238, 239, 242, 247, 248, 250
Non-Domestic Aggregated Band 2	202	0, 3, 4, 5-8	14.288	0.608	0.113	10.51				
Non-Domestic Aggregated Band 3	203	0, 3, 4, 5-8	14.288	0.608	0.113	19.94				
Non-Domestic Aggregated Band 4	204	0, 3, 4, 5-8	14.288	0.608	0.113	52.80				
Non-Domestic Aggregated (related MPAN)	200	4	14.288	0.608	0.113					33, 64

Overview | **Annex 1 LV, HV and UMS charges** | Annex 2 EHV charges | Annex 2a Import | Annex 2b Export | Annex 3 Preserved charges | Annex 4 LDNO charges

If you are registered as an Extra High Voltage organisation, use the Annex 2 pages. For all other organisations use Annex 1. Use the second column and match the number of your LLFC to determine which band you are within. This table is taken from ID 10, East of England and shows the upcoming NHH Charging bands. As you can see, the time of use charges are designated by the Red, Amber, and Green columns. These are additional charges applied to your time of use charge. The Fixed Cost now changes with higher bands paying higher fixed costs. This will be applied to your standing charge.

Tariff name	Open LLFCs	PCs	Red/black unit charge p/kWh	Amber/yellow unit charge p/kWh	Green unit charge p/kWh	Fixed charge p/MPAN/day	Capacity charge p/kVA/day	Exceeded capacity charge p/kVA/day	Reactive power charge p/kVAh	Closed LLFCs
LV Site Specific No Residual	70	0	9.824	0.396	0.074	11.04	3.65	7.57	0.341	19
LV Site Specific Band 1	71	0	9.824	0.396	0.074	98.67	3.65	7.57	0.341	86
LV Site Specific Band 2	72	0	9.824	0.396	0.074	142.19	3.65	7.57	0.341	
LV Site Specific Band 3	73	0	9.824	0.396	0.074	234.29	3.65	7.57	0.341	
LV Site Specific Band 4	74	0	9.824	0.396	0.074	490.22	3.65	7.57	0.341	
HV Site Specific No Residual	90	0	5.570	0.180	0.035	109.59	4.19	5.86	0.176	89
HV Site Specific Band 1	91	0	5.570	0.180	0.035	637.99	4.19	5.86	0.176	
HV Site Specific Band 2	92	0	5.570	0.180	0.035	1440.55	4.19	5.86	0.176	
HV Site Specific Band 3	93	0	5.570	0.180	0.035	2834.21	4.19	5.86	0.176	
HV Site Specific Band 4	94	0	5.570	0.180	0.035	6770.43	4.19	5.86	0.176	

Overview | **Annex 1 LV, HV and UMS charges** | Annex 2 EHV charges | Annex 2a Import | Annex 2b Export | Annex 3 Preserved charges | Annex 4 LDNO charges

For HH meters, you will either be designated as a Low Voltage (LV) or High Voltage (HV) premises. As such, you also will have additional charges, such as capacity charges and reactive

power charges, but largely these will remain the same. The key change here is the Fixed Charge which starts to increase significantly depending on which band you are in, particularly for organisations that are designated as an HV premise.

What can you do?

The charges have changed to better reflect how energy is used across the network and to ensure that everyone pays their fair share based on their proportion of energy consumed. What is important to note is that consumption charges will make up the majority of your electricity bill, so to save money, reducing the amount of electricity you consume is the only way to make a significant impact on your electricity bill.

For these underlying charges, it is important to make sure you are within the correct pricing band, particularly if you have a HH meter. Additionally, it is imperative that you understand your capacity allowance and whether that is right for you. For all organisations, some actions to consider are:

- 1) Check your contract, are you paying the rates you should be paying? Do you have day and night rates and are they being applied correctly?
- 2) Check your MPAN numbers on your bills and meter match, and that you are paying the correct rates
- 3) Download the 'Use of System Charging Statement' and the supplementary spreadsheet

For those who have half-hourly meters:

- 4) If you have a 'Pass Through' contract, check the DUoS charges on your bill match the applicable statement year charges produced by your DNO
- 5) As changes will occur from April 2022, look at the information ahead to gauge and estimate your costs based on your average kVA band
- 6) TNUoS charges will change in April 2023, so the last Triad period has ended – expect to receive either a large additional cost or a reconciliation charge depending on how you pay your Triad costs.

For all organisations, it is vitally important that you look ahead by checking when your electricity contract is set to end. As there are no price caps for businesses, you will need to understand when the contract ends and start to plan your budget. Do not go out of contract rates, i.e., ensure that you have an agreed contract rate and are not subject to variable price rates. This may require a 12-month contract, but securing a price is less risky than being exposed to price changes.

As energy prices are predicted to rise, energy management is vital to protecting your organisations. Understanding how charges are applied will help to understand what you can do to reduce them. Get to know your meters, tariffs, and predicted charges to ensure that you are paying a fair price for your energy consumption.

Looking to reduce energy consumption? Get to know how and why you are using energy to identify where there is an opportunity to make reductions, this is covered in the 'Measure

Resource Use lesson' for all levels of iiE members. Check out your Members Portal for more information.

Not an iiE Member? We support all organisations in developing an Environmental Management System that will give you the tools to understand your energy and support informed decisions to reduce your energy consumption. Find out how we can help you here:

<https://www.iiE.uk.com/register>

