Distribution Charging Overview

June 2023

Electricity Distribution

nationalgrid

Background to charges

What costs they cover, the models used, and useful documents

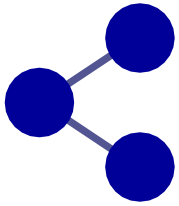
Distribution use of system tariffs recover the costs of operating and investing in electricity networks. In Great Britain we have two charging methodologies:

- The common distribution charging methodology (CDCM) which covers charges to HV and LV customers.
- The EHV distribution charging methodology (EDCM) which is used to charge larger customers who are connected to the network at (Extra High Voltages) EHV or above.

The methodologies are published in the Distribution Connection and Use of System Agreement (DCUSA) under schedules 16, 17 and 18. DCUSA is a multi-party contract between licensed electricity distributors, suppliers, and generators concerned with the use of the electricity distribution network. This document can be found on the DCUSA website (www.dcusa.co.uk).

Changes to these methodologies can be proposed by parties to DCUSA, such as suppliers and distributors, and may also be proposed by non-parties with the support of a party. These open governance arrangements require change proposals to go through a process of open consultation which includes assessment of the likely impact of the change on distribution tariffs. Following this period of open consultation, parties get the opportunity to vote on the change. If the change proposal does not require Ofgem approval, then the change will be implemented at the agreed time. Otherwise Ofgem will review the change and determine whether or not the proposal is appropriate.

The electricity bill provided by a customer's supplier is the mechanism by which distribution charges are invoiced. In a typical domestic electricity bill, charges for distribution networks (NGED) account for approximately 9.3%.



9.3%

Typically distribution charges make up approximately 9.3% of a Domestic customer's final bill.

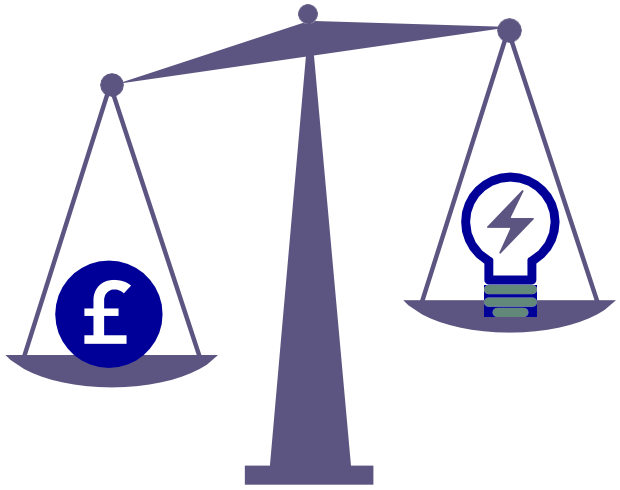
How can a customer reduce their bill?

The most effective way of reducing energy charges is to decrease consumption, particularly in the peak periods.

For CDCM customers this peak time band is known as the Red period and in NGED regions covers early evening. For EDCM customers the peak period is known as the Super Red which typically for NGED covers early evenings in the November to February months. Conversely generators can gain credits for exporting during these time periods.

Demand customers can also minimise charges by ensuring that their capacity requirements are sufficient. For example, it might be the case that the maximum import capacity (MIC) arranged by a half hourly metered customer many years ago is no longer reflective of the current operating conditions of that business. In such a scenario, it might be in the interests of the customer to arrange for a lower MIC and to reduce bills. However, this needs to be balanced against the knowledge that once capacity is released back to NGED it may no longer be available.

Also if the revised lower agreed capacity is exceeded in any given month, an excess capacity charge, which is typically two or three times the base capacity tariff, is applied.



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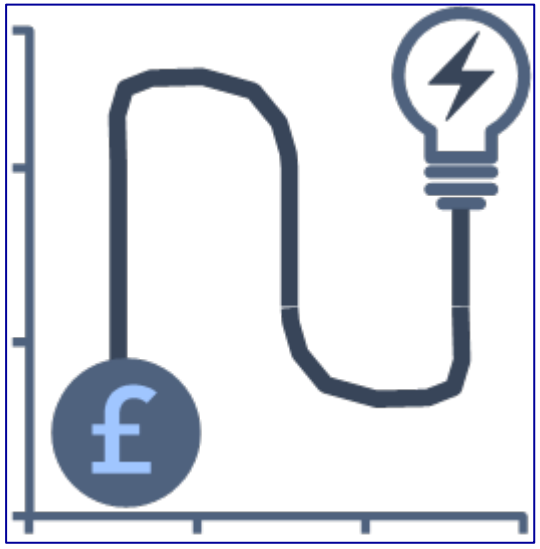
Potential future changes to charges?

The electricity sector is undergoing significant change; more local generation is being connected at the distribution voltages, and intermittent generation is replacing larger transmission connected generation (decentralisation); the electrification of transport and heating is gathering pace (decarbonisation); and the rollout of smart meters is enabling increased half hourly settlement and billing of customers.

These developments have raised the question of how fit for purpose the current network charging methodologies are with regard to incentivising customer consumption behaviour. Ofgem has developed the idea of a Charging Futures Forum in order to better facilitate co-ordination of network charging developments. More information about this can be found at www.chargingfutures.com.

Please remember that there are always change proposals going through the DCUSA governance process, and a good way to find out more information is to visit the DCUSA website.



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How can I calculate an estimate for an EDCM generation customer?

The cost information published on the DCUSA website provides a general picture of how distribution charges are likely to move over the next few years.

The following example explains an approach which could be used to determine the charge for an EDCM generator.

Firstly the Export MPAN:

- From the latest relevant LC14 NGED charging statement (from www.nationalgrid.co.uk) take the p/kVA/day capacity charge and using the maximum export capacity, multiply the charge * kVA * 365/100 to give charge A (£).
- From the connection offer use the sole use assets valuation and multiply by 1.5%. This gives an approximate p/MPAN/day charge which would apply to the combined export and import MPANs – to give charge B (£).
- To offset this there may be some generation credits. These are highly specific to location and type of generation, and for this exercise should be ignored from a prudence point of view. If however a very approximate charge is required then it might be of some help to take the average p/kWh credits from the LC14 and multiply by forecast super red export units – to give credit C (£).
- Forecast for the overall Export MPAN charge would be A + B + C (where C is negative, i.e., a credit).

Secondly the Import MPAN:

- The pence/MPAN/day charge is already accounted for in the second bullet point above – charge B (£).
- For the p/kVA/day charge – take an average of the import capacity charges for existing sites which have both export and import from the LC14 charging statement (schedule 2) and multiply the charge * kVA * 365/100 to give overall charge D (£).
- For the p/kWh charge – take an average of existing sites which have both export and import from the LC14 charging statement and multiply by forecast super red import – to give charge E (£).
- Forecast for the overall Import MPAN charge would be D + E.

The addition of A + B + C + D + E produces the final forecast charge.