

Analysis of the impact of DCP 266

21 April 2017, Reckon LLP

1. This document along with appendices presents the results of our analysis of the impact of a modelling change to implement a specification issued by the DCP 266 working group.
2. The reference version is the CDCM and EDCM April 2018 pre-release models published on the DCUSA website in November 2016.

Input data and assumptions

3. The input data for this impact assessment are mostly based on data drawn from companies' published 2018/2019 charging models.
4. Data that could not be drawn or directly inferred from published models were provided by DNOs in response to an information request. We did not receive a response from SPEN to the data request so our analysis excludes the two SPEN areas (SPM and SPD).

Presentation of the results

5. Our analysis compared LDNO discount percentages before and after DCP 266. We also looked at the impact of changing LDNO discounts on end user tariffs.
6. We present the full results of our analysis in the following sets of documents:
 - (a) The file labelled Appendix 1 sets out the impact of DCP 266 on LDNO discount percentages for all combinations of boundary and end user tariffs. This includes both CDCM (method M) and EDCM (extended method M) discounts.
 - (b) The file labelled Appendix 2 sets out the impact on LDNO discount percentages in a map form, showing differences in the impact between DNO areas (excluding SPEN).
 - (c) The folder labelled Appendix 3 contains three spreadsheets setting out the impact of DCP 266 on CDCM tariffs. This covers the impact on tariff components (unit rates, fixed charges, capacity charges etc), the impact on aggregate revenue by tariff and the impact on average revenue per tariff expressed in p/kWh.

Analysis of the results

7. DCP 266 fundamentally changes the way in which LDNOs are charged for serving CDCM end users.
8. Under the current methodology, LDNOs' charges are determined on a portfolio basis by applying a single discount percentage for each boundary-end user voltage level combination to all end user tariff components (i.e. fixed charges, unit charges, capacity charges). The discount percentages are calculated using a price control disaggregation model (also known as the method M model), which allocates the

DNO's price control revenue to different parts of the distribution network. The results of this allocation are a set of LDNO discounts expressed in percentages.

9. Under DCP 266, the results of the price control disaggregation model would not be expressed in percentages, but rather in p/kWh. For CDCM LDNOs, four values of p/kWh discounts would be calculated:
 - (a) LV boundary and LV end user.
 - (b) HV boundary and LV end user.
 - (c) HV boundary and LV Sub end user.
 - (d) HV boundary and HV end user.
10. The four p/kWh discounts are then converted into discount percentages by dividing them by the appropriate CDCM end user tariff. For instance, to calculate the discount percentage for a HV boundary LDNO with a LV HH metered end user, the discount in p/kWh from (b) above would be divided by the average "all the way" LV HH metered CDCM tariff expressed in p/kWh.
11. Under the DCP 266 approach, LDNO discount percentages can vary from year to year, and are no longer bounded between 0 and 100 per cent. In particular, the DCP 266 p/kWh margins calculated under the method M approach could be higher than the corresponding average CDCM end user tariff, leading to discount percentages greater than 100 per cent. This is particularly the case for EHV LDNOs.
12. The impact of DCP 266 on LDNO discounts for generation end user tariffs served by EDCM IDNOs is particularly extreme. Under the current approach the LDNOs' margin (if they choose to mirror the DNO's tariff) are negative as discount percentages are applied to generation credits. The effect of fixing the LDNO margin in p/kWh for generation end users served by EHV LDNOs means that, in all cases, the LDNO earns a positive margin that far exceeds the credits that would be paid by the host DNO to an equivalent end user. This leads to discount percentages being negative and greater than 100 per cent (i.e. DNO pays the LDNO a credit that is much larger than the credit that it would have paid the end user).
13. The following table sets out a summary description of the impact of DCP 266 on LDNO discount percentages for each CDCM demand end user tariff.

Table 1 Summary of the impact of DCP 266

CDCM end user tariff	Summary of impact on LDNO discount percentages*
Domestic Unrestricted	Lower discount percentages in all DNO areas.
Domestic Two Rate	Higher discount percentages in most DNO areas. Discounts are lower in UKPN EPN and SPN areas.
Domestic Off Peak (related MPAN)	Higher discount percentages in most DNO areas. Discounts are lower in UKPN EPN and SPN areas.
Small Non Domestic Unrestricted	Higher discount percentages in all DNO areas (with a few exceptions in NPG Yorkshire and SSEN SHEPD).
Small Non Domestic Two Rate	Higher discount percentages in all DNO areas.
Small Non Domestic Off Peak (related MPAN)	Higher discount percentages in all DNO areas.
LV Medium Non-Domestic	Higher discount percentages in all DNO areas.
LV Sub Medium Non-Domestic	Higher discount percentages in all DNO areas.
HV Medium Non-Domestic	Higher discount percentages in all DNO areas.
LV Network Domestic	Lower discount percentages in all DNO areas. The reduction is relatively large in the UKPN SPN and WPD South Wales areas.
LV Network Non-Domestic Non-CT	Higher discount percentages in all areas except NPG Northeast and Yorkshire where there is a small reduction. The increases are particularly large in UKPN LPN and SPN.
LV HH Metered	Lower discount percentages in ENWL, SSEN SHEPD, UKPN EPN and LPN. Higher discount percentages in SSEN SEPD, NPG Yorkshire and Northeast, UKPN SPN and all four WPD areas.
LV Sub HH Metered	Higher discount percentages in all areas except WPD East Midlands. The increase is particularly large in SSEN SHEPD.

HV HH Metered	Higher discount percentages in all DNO areas except SSEN SHEPD, where they are lower.
NHH UMS category A	Lower discount percentages in ENWL, SSEN SHEPD, all three UKPN areas, and WPD South Wales and South West. Higher discount percentages in all other areas.
NHH UMS category B	Lower discount percentages in ENWL, UKPN EPN and SPN, all four WPD areas. Higher discount percentages in all other areas (with one exception in UKPN LPN).
NHH UMS category C	Lower discount percentages in all DNO areas.
NHH UMS category D	Lower discount percentages in ENWL, SSEN SHEPD and UKPN LPN. Higher in all other areas.
LV UMS (Pseudo HH Metered)	Lower discount percentages in ENWL, UKPN EPN and SPN, and the four WPD areas. Higher discount percentages in all other areas.

*Excludes SPEN SPM and SPD, and tariffs in all areas where volume forecasts are zero.