



Model documentation: Update  
models & guidance for DCP 34I and  
DCP 342 (Request B02-I)

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DCUSA/ElectraLink

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## I. INTRODUCTION

This document describes charging models and supporting documentation developed for DCUSA. The following sections set out the:

- specification for the new files, including the identity of the reference files for the revisions noted here within and the new file names; and
- revisions to the models, and the impact of those changes.

## 2. SPECIFICATION

The models and supporting documentation described herein were developed in response to a request to produce versions of the CDCM, ARP and EDCM (LRIC & FCP) models that implement DCP 341 – “Removal of residual charging for storage facilities in the CDCM” and DCP 342 – “Removal of residual charging for storage facilities in the EDCM”.

The reference files noted below were developed in line with the draft DCUSA text shared with the modelling team on 23<sup>rd</sup> April 2019. This text set out the changes required to implement DCP 341 and DCP 342 against a baseline legal text which includes the changes introduced by DCP 268, which was approved by Ofgem on 8<sup>th</sup> April 2019. However, CEPA and TNEI have not yet developed charging models which implement DCP 268, and it was deemed that this would not be possible to do this prior to implementing DCP 341 and DCP 342 while still achieving the desired timescales for these two DCPs.

Therefore, we have developed models which reflect the incremental changes in the DCP 341 and DCP 342 legal text, but against the baseline legal text used for the 2020/21 charging models – in other words, prior to the implementation of DCP 268. This also allows us to use the 2020/21 charging outputs for the purposes of the impact assessment. This approach was clarified and agreed with DCUSA.

In essence, this means that we have not included the streamlining of the tariffs introduced by DCP 268, and instead reflected the DCP 341 and DCP 342 changes against the previous tariff categories<sup>1</sup>. This is summarised in Table 2.1.

Table 2.1: Overview of pairs of tariffs introduced by DCP 341

Pairs of tariffs from specification	Pairs of tariffs implemented in model
LV Site Specific LV Site Specific Storage Import	LV HH Metered LV HH Metered Storage Import
LV Sub Site Specific LV Sub Site Specific Storage Import	LV Sub HH Metered LV Sub HH Metered Storage Import
HV Site Specific HV Site Specific Storage Import	HV HH Metered HV HH Metered Storage Import

<sup>1</sup> Note that this is only really relevant for DCP 341, as the changes introduced by DCP 342 do not interact with DCP 268.

As the table suggests, these two DCPs introduce variants on the calculation for tariffs which are for the import of energy to storage sites, removing the application of residual charges from these tariffs. This means that, for storage sites, the cost-reflective element of all charges should be equal to all other comparable import sites, but they should have no residual charges. These changes are summarised in Table 2.2.

Table 2.2: Overview of changes introduced by DCP 341 and DCP 342

	DCP 341	DCP 342
CDCM	Three new tariffs added, as in Table 2.1, which mirror the paired cost reflective tariffs but <i>don't</i> then add the residual fixed adder to unit rate. This requires additional rows and columns to be added throughout the model, as well as significant changes in the calculations on the “Pseudo-load coefficients” and “Revenue matching” sheets.	No changes required
ARP	As in the CDCM	No changes required
EDCM (LRIC and FCP)	New CDCM tariffs introduced into LDNO discounting calculations within EDCM.	Calculations added into the import capacity calculation to remove the application of storage charges for import capacity related to storage.

DCP 341 and DCP 342 have been implemented in two separate versions of the EDCM.

## 2.1. REFERENCE FILES

The following table sets out the reference versions of the charging models and user guides used as the starting point for the revisions described in this document.

Table 2.3: Reference files

Model	Model file name	Date sent
CDCM	CDCM_v3_20181016.xlsx	16/10/2018
ARP	ARP_v3_20181016.xlsx	16/10/2018
EDCM (LRIC)	EDCM-LRIC_v4_20181102.xlsx	02/11/2018
EDCM (FCP)	EDCM-FCP_v4_20181102.xlsx	02/11/2018

## 2.2. NEW FILES

The following table sets out the versions of the charging models and impact assessment provided to the DCP 341 and DCP 342 Working Group in response to the request described above.

Table 2.4: New files

Model	Model file name	Date sent
CDCM	CDCM_v3(341)_20190522	22/05/2019
ARP	ARP_v3(341)_20190522	22/05/2019
EDCM (LRIC)	EDCM-LRIC_v4(341)_20190522 EDCM-LRIC_v4(342)_20190522	22/05/2019
EDCM (FCP)	EDCM-FCP_v4(341)_20190522 EDCM-FCP_v4(342)_20190522	22/05/2019
CDCM Impact assessment	CEPA-TNEI_B02-I_ImpactAssessment_2020-21_341.xlsx	22/05/2019

We understand that the new files listed in Table 2.4 will be considered by the DCP 341 and 342 Working Group and may be shared for consultation.

### 2.3. ASSUMPTIONS AND CLARIFICATIONS

The intent of this pair of DCPs is that all cost reflective charges should be identical for storage sites and comparable demand sites, but that storage should not pay residual charges. The changes introduced to the EDCM by DCP 342 achieve this by definition. For the CDCM, there are some steps within the revised version of Section 16 of legal text that set out to achieve this, including requirements that:

- **Paragraph 34:** for the purposes of considering service models, each pair of tariffs in Table 2.1 should be considered in aggregate.
- **Paragraph 42:** when calculating load factors and coincidence factors, the pairs of tariffs in Table 2.1 should be considered in aggregate.
- **Paragraph 70 (c) iv):** the pairs of tariffs in Table 2.1 should be aggregated when calculating pseudo-load coefficients.
- **Paragraph 88:** which requires that, when calculating reactive power charges, users on the pairs of tariffs in Table 2.1 should be considered in aggregate.

We have assumed that meeting the requirements in Paragraph 34 and Paragraph 42 require the DNOs to enter matching inputs for each pair of tariffs with respect to coincidence factors, load factors, and service model inputs. We have included checks in the model to achieve this, which will highlight an issue in the models if for any of these pairs of tariffs, the relevant inputs do not match.

Our understanding is that the requirements of Paragraph 88 are then achieved automatically within the model, since the reactive power charge is calculated in the model based on the “Yardstick” charge. This is in turn calculated from the value of the “load coefficient”, which is calculated directly from the input values of the load factor and coincidence factor. Therefore, if these match for each pair of tariffs, then the reactive power charges should also match.

The implementation of Paragraph 70 (c) iv) requires the most significant changes within the model. In principle, this is achieved using a very similar method to that which already existed within the model for UMS customers where certain values were calculated based on the aggregated units across all UMS

customers. However, as set out in the CDCM assumptions log within the user guide, this aggregation is only applied to the first 2 steps of the pseudo-load calculation within paragraph 70 (c), and not the third.

The result of not applying the third step for UMS customers is that each of the UMS tariffs is different. To ensure that the pairs of storage tariffs match, we have therefore also calculated the step iii) in aggregate for these pairs.<sup>2</sup> Therefore, the assumption made with respect to Paragraph 70 is different for UMS customers and the pairs of tariffs in Table 2.1. This is summarised in Table 2.5, which copies the relevant passage of the legal text but with the references to aggregation groups made explicitly.

Table 2.5: Assumptions for Paragraph 70 (c)

Paragraph	Legal text	Applies for UMS Customers	Applies for pairs of tariffs in Table 2.1
70 (c) i)	calculate the ratio of coincidence factor to load factor that would apply if <b>[all of the units from this aggregate group]</b> were uniformly spread within each time band, based on the estimated proportion of <b>[all of the units from this aggregate group]</b> recorded in each relevant time pattern regime that fall within each distribution time band and the assumption that the time of system simultaneous maximum load is certain to be in the red or black (as appropriate) distribution time band	Yes	Yes
70 (c) ii)	calculate a correction factor for each <b>[group of aggregated tariffs]</b> as the ratio of the coincidence factor to load factor, divided by the result of the calculation above	Yes	Yes
70 (c) iii)	for each network level and each unit rate, derive the ratio of coincidence factor (to network asset peak) to load factor that would apply given peaking probabilities at that network level if <b>[all of the units from this aggregate group]</b> were uniformly spread within each time band, multiplied by the correction factor	No	Yes

## 2.4. OUTSTANDING LEGAL TEXT ISSUES

Aside from the minor assumptions and clarification listed above, we are not aware of any outstanding issues with the legal text that the working group ought to consider.

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<sup>2</sup> With the current fixed inputs, this ultimately doesn't end up having an impact on the outputs, as the proportion of unit rates by time band inputs are fixed for these customers. However, if these fixed inputs were changed in the future, then the model would no longer be compliant with the intention of DCP 341.

### 3. MODEL REVISIONS

#### 3.1. REVISIONS FOR DCP 34I

##### 3.1.1. Structural changes

To implement DCP34I, it was necessary to add three new columns or new rows to many of the sheets within the models. This constitutes the bulk of the changes within the models. By default, the behaviour of the models for these new rows/columns mimics the behaviour for the HH metered tariffs that they are meant to match.

In the CDCM and ARP, three new columns were added in:

- **'ARP\_Load characteristics'**. ARP only.
- **'Fixed inputs'**.
- **'Inputs by customer type'**. In the ARP, care was taken to ensure that these inputs point to the right cells on the ARP\_Load characteristics sheet.
- **'Standing charge factors'**.
- **'Volume adjustments'**.
- **'Pseudo-load coefficients'**.
- **'System peak demand'**. Cell references in the User Loss Factor table in Section 106-A had to be updated carefully.
- **'Service model assets'**
- **'Initial unit rates'**
- **'Service model charges'**
- **'Unit rate charges'**.
- **'Reactive power charges'**.
- **'Capacity charges'**.
- **'Fixed charges'**.
- **'Revenue matching'**
- **'Rounding'**.
- **'Net Revenue Summary'**.
- **'Outputs to other models'**.

In the EDCM, three new columns were added in:

- **'LDNO inputs'**.
- **'LDNO calculations'**.
- **'LDNO tariffs'**.

In the CDCM and ARP, three new rows were added to tables in the following sheets

- **'ARP\_Inputs by customer type'**. ARP only
- **'Load & Loss characteristics'**.
- **'Customer contributions'**.
- **'Tariff summary'**.
- **'Typical bills'**. ARP only

In the EDCM, three new rows were added to tables in the following sheets

- **'LDNO tariffs transposed'**.

### 3.1.2. Additional or modified information sections

The following revisions were made in the CDCM and ARP:

- **‘Cover’**. Subtitle updated.
- **‘Version control’**. Version control updated (including model date, DCUSA text version, and description of changes).
- **‘Index’**. Updated to account for revised section names.

The following revisions were made in the EDCM:

- **‘Cover’**. Subtitle updated.
- **‘Version control’**. Version control updated (including model date, DCUSA text version, and description of changes).

### 3.1.3. Additional or modified input sections

Beyond just adding new columns and rows, some changes to the inputs were necessary in the CDCM and ARP.

The following revisions were made in the CDCM and ARP:

- **‘ARP\_Inputs by customer type’**. [Added checks]
- **‘Fixed inputs’**. As well as adding new columns for the three new tariff types, extra inputs were included in Input 101-G to define different aggregation groups for pseudo-load coefficients.
- **‘Inputs by customer type’**. [Added checks]

No additional changes to inputs were required in the EDCM beyond revisions to accommodate the additional CDCM tariffs in Input 307-A on the “LDNO inputs” sheet.

### 3.1.4. Additional or modified calculation sections

Beyond just adding new columns and rows, some changes to the calculations were necessary in the CDCM and ARP.

The following revisions were made in the CDCM:

- **‘Pseudo-load coefficients’**.
  - **‘Section 105-C’**. This section has been expanded so that it now includes more generic calculations to be used when calculating pseudo-load coefficients that are aggregated across groups, rather than just for UMS customers specifically. This includes flags for tariffs where the split of total units across timeband is required, as well as where it is necessary to calculate this separately for each of the three-unit rates.
  - **‘Section 105-D’**. This section has been streamlined, based on the more generic calculations in the preceding section.
  - **‘Section 105-F’**. This section has been made more generic, whereas previously it contained calculations which were quite specific to UMS customers.
  - **‘Section 105-G’**. This section has been made more generic, whereas previously it contained calculations which were quite specific to UMS customers.
  - **‘Section 105-J’**. Some of the cell references in this section have been updated to work with the changes to calculations in preceding sections. In addition, the formatting on some



calculation blocks has been changed to make it clearer formulae are not consistent across an entire block.

- 'Section 105-L'. the formatting on some calculation blocks has been changed to make it clearer that formulae are not consistent across an entire block.
- **'Revenue matching'**.
  - 'Section 115-C'. New tariffs have zero units expected to be charged by definition.
  - 'Section 115-D'. Included new tariffs in the tables in Step 1, Step 2 and Step 3. Required extension of the "Rank" row to 108 values, rather than 99. Modified "Unscaleable net revenue" to reflect the fact that new tariffs unit rate revenue is unscaleable.
  - 'Section 115-E'. Set the adder for the new tariffs to be blank, by definition.
- **'Net Revenue Summary'**.
  - 'Section 117-C'. Some blank rows were added to improve the clarity of the model.

No additional changes to calculations were required in the EDCM.

### 3.1.5. Additional or modified output sections

No additional changes were required to outputs in the CDCM, ARP or EDCM, beyond the addition of new rows and columns for the three new tariffs.

### 3.1.6. Changes required in the user guides

If implemented, it will be necessary to reflect these modifications in the model user guides. We would make the following changes:

- **CDCM user guide**. It is expected that some minor changes would be required in the CDCM user guide to reflect the new checks that have been introduced on the inputs for load factor, coincidence factor, and service models. Unless the legal text was clarified, it would also need to include the assumptions set out in Section 2.3 of this document.
- **EDCM user guide**. No significant changes are expected to be required in the EDCM user guide.

## 3.2. REVISIONS FOR DCP 342

### 3.2.1. Structural changes

No significant structural changes were required for DCP342.

### 3.2.2. Additional or modified information sections

The following revisions were made in the EDCM:

- **'Cover'**. Subtitle updated.
- **'Version control'**. Version control updated (including model date, DCUSA text version, and description of changes).

### 3.2.3. Additional or modified input sections

- **'Tariff inputs'**. Added a new input to identify sites where the import is exclusively used for storage.

- **‘Tariff inputs transposed’**. Added a new column for transposition of the new input.

### 3.2.4. Additional or modified calculation sections

- **‘Import capacity’**.
  - **‘Section 208-A/308-A’**. Included a row to bring the new input through from the Tariff inputs sheet.
  - **‘Section 208-M/308-M’**. Included a calculation of the total adjusted site-specific shared assets for storage sites.
  - **‘Section 208-P/308-P’**. Updated the calculation of the residual revenue charging rate and the asset based residual revenue charges, in line with the new legal text.
  - **‘Section 208-Q/308-Q’**. Included a calculation of the volume for scaling for storage sites. Updated the single fixed adder calculation to incorporate this, and the import capacity based fixed adder.

### 3.2.5. Additional or modified output sections

No changes to outputs were required for DCP342.

### 3.2.6. Changes required in the user guides

If implemented, it will be necessary to reflect these modifications in the model user guides. We would make the following changes:

- **‘EDCM user guide’**. The only change anticipated in the EDCM user guide would be highlighting the new input for identifying sites where the import is exclusively used for storage.

## 4. IMPACT STATEMENT

### 4.1. BACKGROUND

The impact assessment submitted under this service request sets out the impact of DCP 341 on:

- **'CDCM tariffs'**. Tariffs produced by the CDCM;
- **'CDCM per kWh'**. Net revenue per kWh for each CDCM tariff; and
- **'CDCM per MPAN'**. Net revenue per MPAN for each CDCM tariff.
- **'HH tariffs'**. Compares the HH Metered (site specific) storage tariffs with the relevant demand tariff.

In each case, the impact assessment presents values before the DCP, after the DCP, absolute difference and percentage change.

We have not included impact assessments for EDCM outputs because we do not have access to actual EDCM data. Likewise, we are not able to determine the final impact of DCP 341 and DCP 342 without resolving inter-model circularities, as we do not have the actual EDCM data needed to do that. All impacts are presented before resolution of inter-model circularities.

Impact assessments were generated using inputs from the 2020/21 published models as requested by the working group. In addition, the working group provided detail inputs for the volumes for each tariff category, including the new tariffs. For brevity, these are not included here, however, they were calculated based on the following assumptions, reproduced from the specification:

- 5% of HH metered exported units at each voltage (i.e. 5% of the sum of the intermittent, non-intermittent, intermittent no RP charge and non-intermittent no RP charge at each voltage) are exported by storage. The total import volumes associated with the new storage import tariffs is set to the same level, i.e. assuming 1:1 import to export ratio for storage.
- Total volumes have been split across the red/amber/green time bands in the same proportion as the HH metered import tariff at that voltage.
- 5% of generation customer counts are assumed to relate to storage, i.e. the MPAN count for new tariffs has been set to 5% of the total generation MPAN count at that voltage.
- Storage sites have import capacity and excess reactive units set to the average of HH metered demand customers at that voltage. They have no excess capacity.
- Units, MPANs, capacity and reactive units for the storage tariffs have been deducted from the HH metered tariff at each voltage.
- There are no storage sites connected to LDNO networks.

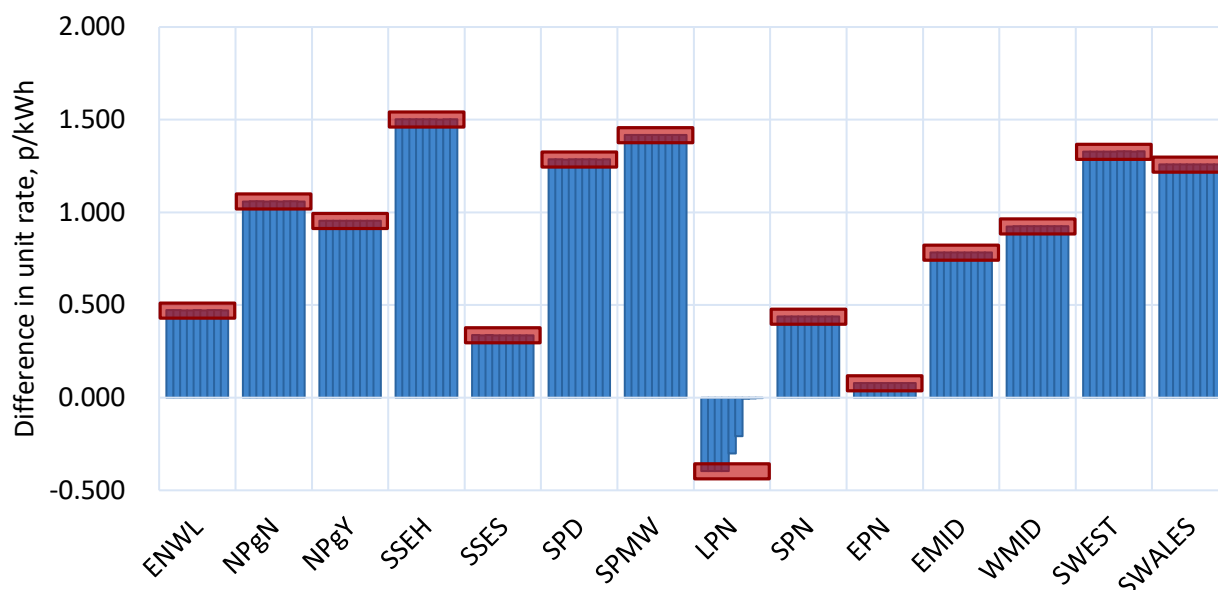
For the new tariff categories that have been introduced, we have used the 2020/21 HH metered (site specific) tariffs including residuals as the baseline for comparison in the impact assessment.

### 4.2. VALIDATION

To validate the model, we have calculated the difference between the demand and storage import tariffs for each of the three-unit rates, for all three tariffs, for each DNO and compared this to the constrained fixed-

adder. For each of the DNOs, the difference in all nine<sup>3</sup> of the unit rates is shown against the residual in Figure 4.1.

Figure 4.1: Comparison of differences in paired tariffs and calculated residuals<sup>4</sup>



As can be seen, the difference in tariffs is almost exactly equal to the calculated residual for thirteen of the DNOs, with small differences in some cases of  $\pm 0.001$  p/kWh which is due to the rounding of the end tariffs.

However, in the case of UKPN's LPN licence area, the results are somewhat different. For LPN, the residual fixed adder is actually negative and leads to a reduction in tariffs. The reduction that applies is capped at the value of the cost-reflective unit rate, so that the total resultant unit rate is non-negative (with a minimum value of zero). Therefore, when looking at the difference between storage import and demand tariffs for LPN, the minimum value of the difference is the residual, but for individual unit rates it may be less than this if the magnitude of the initial cost-reflective unit rate is less than the magnitude of the reduction due to the residual fixed adder.

### 4.3. IMPACTS

We have calculated the impact on CDCM tariffs (all-the-way and LDNO discounted), as well as on total revenue recovered per MPAN and per kWh from different tariff categories. All of these outputs are provided in the accompanying workbooks; however, we have included the following outputs directly within this document:

- the absolute impact, in p/MPAN/day, on all-the-way fixed charges; and
- the absolute impact, in £/MPAN, on £/MPAN bills for all-the-way customers.

<sup>3</sup> Three unit-rates for each of the LV, LV Sub and HV tariffs.

<sup>4</sup> Calculated residuals (shown in red) are based on the constrained adder calculated in the revenue matching process (Section 115-D).

These charts and tables below show the results across DNOs, but do not specify individual DNOs. These results are available in the accompanying workbooks.

### 4.3.1. Impacts on tariffs

For fixed charges, capacity, charges, exceeded capacity charges, and reactive power charges, there is no change in any tariffs. Since the only changes are in the application of residuals, with cost-reflective charges not changing by design, this is expected.

For unit rates, with the exception of LPN, the storage import tariffs reduce for all unit rates and all voltage levels. The % reductions across all DNOs (excluding LPN) and all voltage levels are summarised in Table 4.1, including the average, median, minimum and maximum reductions. It can be seen that the relative reduction is greater for unit rate 3 than unit rate 2, and for unit rate 2 than unit rate 1. This is because, for unit rate 1, the residual charge is lower, compared to the cost-reflective element, than for unit-rate 2, and even more-so for unit-rate 3.

Table 4.1: Summary of changes in unit rates for storage import tariffs, excluding LPN

Tariff	Average	Median	Minimum	Maximum
Unit rate 1	17.7%	17.9%	0.8%	38.2%
Unit rate 2	66.5%	69.6%	25.2%	91.3%
Unit rate 3	92.5%	95.9%	71.8%	99.7%

For all other tariffs and with the exception of LPN, there are either no changes or minor increases in the unit rates. This is because the import units from storage, which were previously being charged the residual, are no longer contributing towards revenue recovery. Therefore, the charging base for residual revenue recovery is smaller, and therefore the residual charge per unit increases. The changes in unit rates for all demand tariffs, with the exception of the new storage import tariffs, is shown in Table 4.2, again excluding LPN.

Table 4.2: Summary of changes in unit rates for demand tariffs, excluding LPN

Tariff	Average	Median	Minimum	Maximum
Unit rate 1	0.1%	0.1%	0.0%	0.9%
Unit rate 2	0.1%	0.1%	0.0%	1.2%
Unit rate 3	0.1%	0.0%	0.0%	1.2%

For LPN, the storage import unit rates actually increase, since the negative residual was actually reducing their tariffs. In some cases, they reduce by less than the total residual – this happens when the previous unit rate was 0 p/kWh<sup>5</sup>. As a result, there are some very minor reductions in the unit rates of the other demand tariffs (no more than 0.1%) due to the fact that more revenue is now being recovered from the storage customers, leading to a fall in the residual revenue that needs to be recovered.

All of these impacts are summarised in Figure 4.1 through Figure 4.3.

<sup>5</sup> This shows up as a percentage change of zero in the workbook, however, this is due to a “divide by zero” error when comparing the new tariff (which is greater than zero) with the previous zero tariff.

Figure 4.2: Unit rate 1 changes

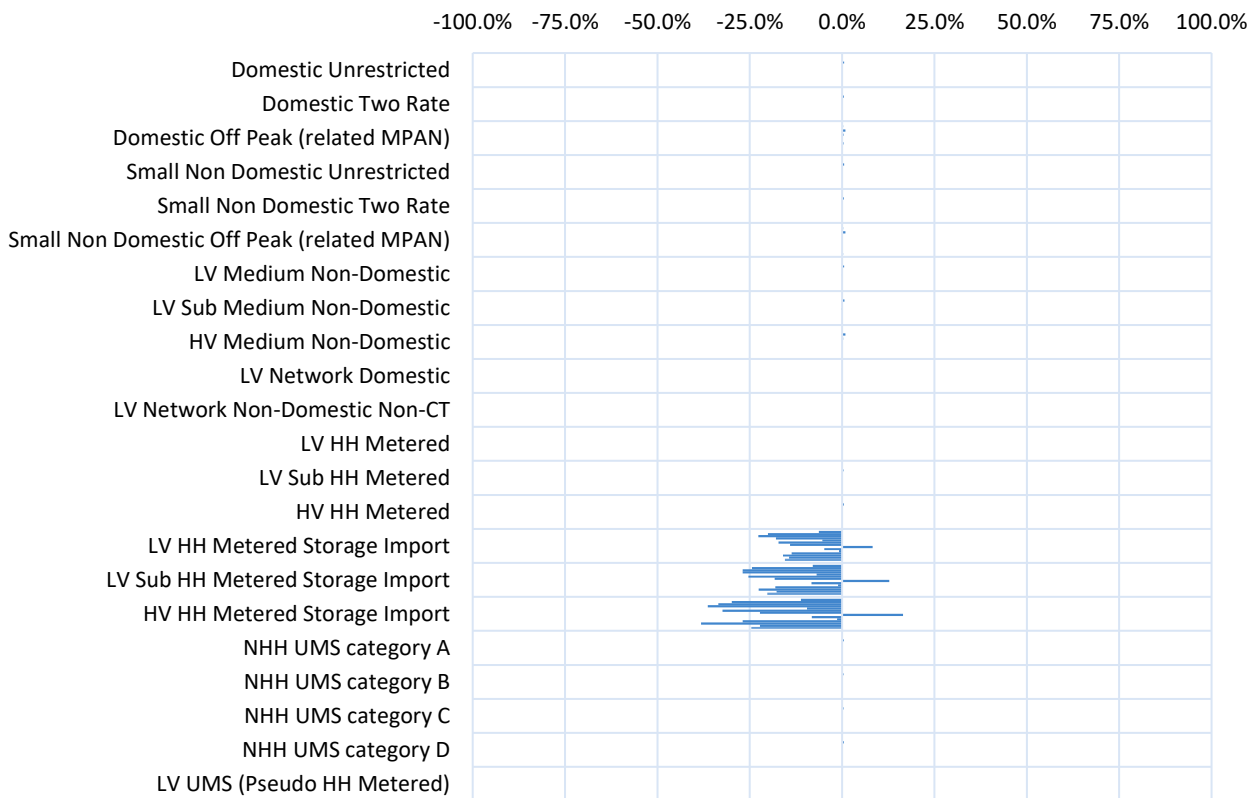


Figure 4.3: Unit rate 2 changes

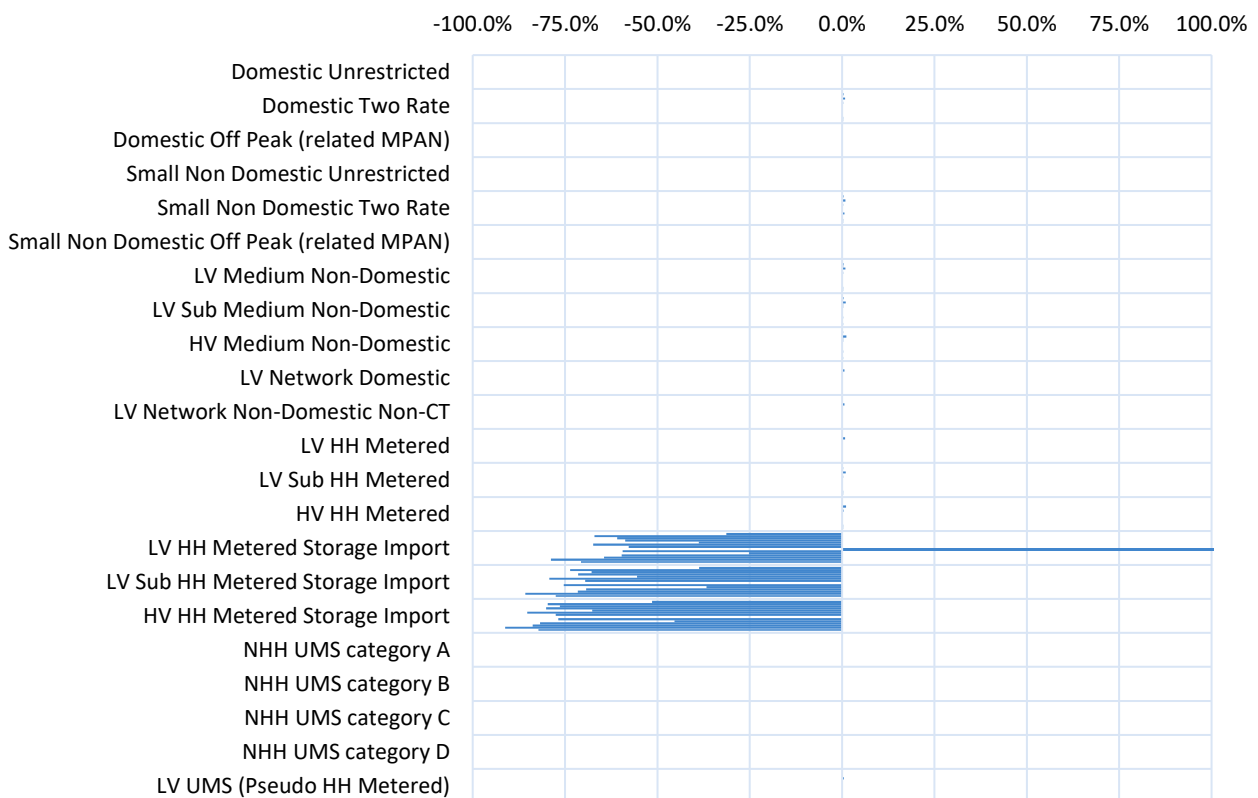
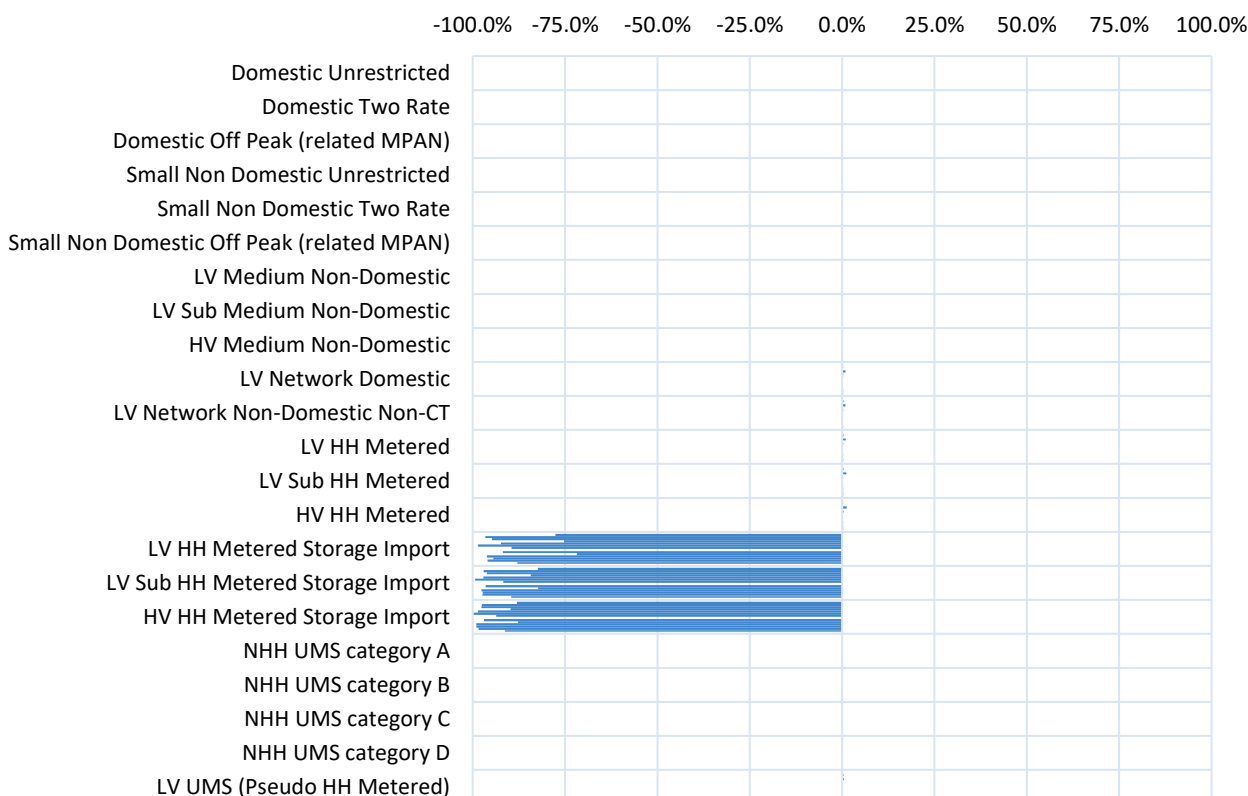


Figure 4.4: Unit rate 3 changes



### 4.3.2. Impacts on typical bills

The impact on typical bills is slightly more complex, as it depends on both the changes to the tariffs, as well as the defined input volumes. The changes in typical bills for the storage import tariffs compared to all of the other demand tariffs is summarised in Table 4.3, with all changes shown in more detail in Table 4.3. The impacts are presented graphically in Figure 4.5.

Table 4.3: Summary of impact on typical bills

Tariff	Average	Median	Minimum	Maximum
Storage import tariffs	-47.8%	-51.7%	-77.2%	7.5%
Other demand tariffs	0.1%	0.1%	-2.3%	0.9%

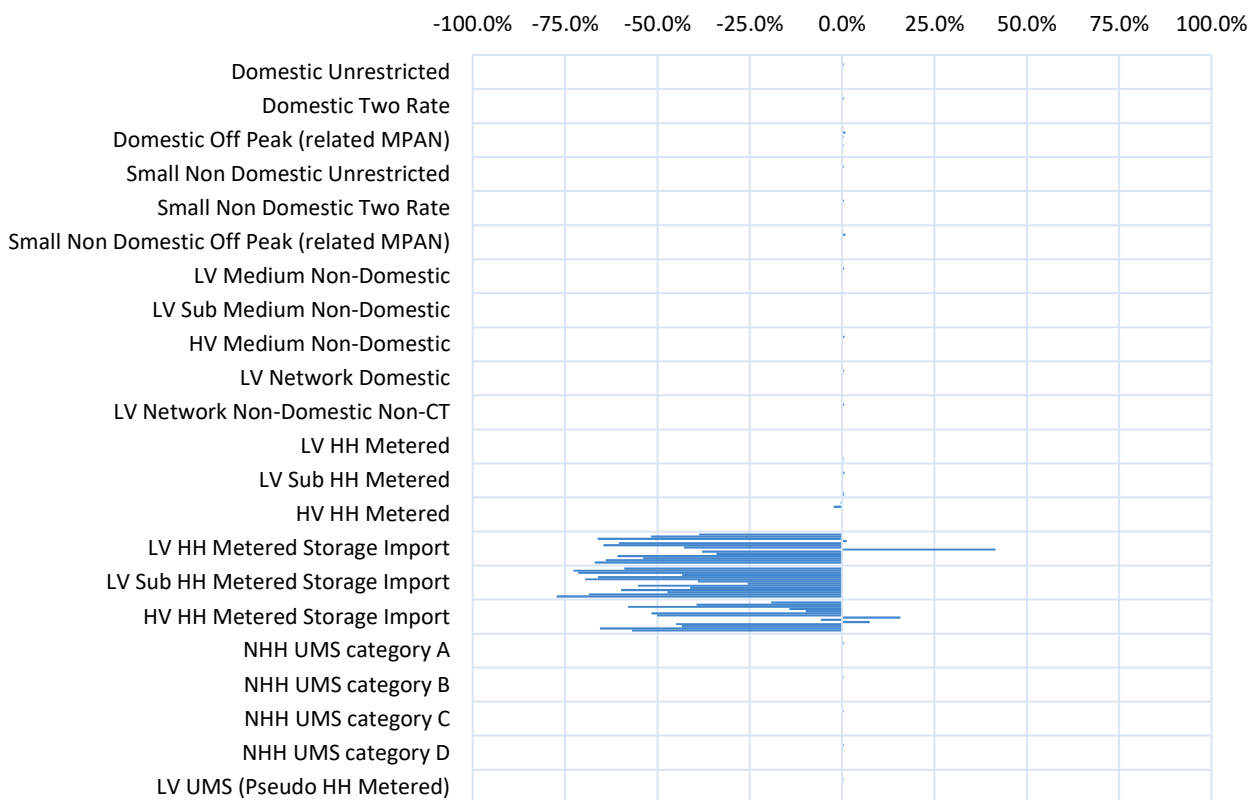
In most cases, the changes in bills are easily related to the changes in tariffs, with typical bills for storage import tariffs decreasing significantly, and increasing slightly for the other tariffs. However, there are some unusual cases, such as for SSEH, where the typical bill for the HV HH Metered tariff actually decreases, despite the tariffs either staying the same or increasing slightly.

The reason this occurs is due to the assumptions around storage volumes, of both MWh and MPANs. Although these are defined consistently in terms of the equivalent export tariff categories (with the assumption that 5% of both MWh and MPAN are storage), this will result in different proportional reductions in the volumes associated with the demand tariffs.

For example, for SSEH the total LV HH Metered volume (across all three unit-rates) is reduced by 8.13%, while the number of MPANs is only reduced by 2.72%. This means that the number of units per MPAN is reduced by 5.56%.<sup>6</sup> However, the increase in unit-rates is much smaller than this, at +0.5% for unit-rate 1, 1.1% for unit-rate 2 and 1.2% for unit-rate 3. Since the total volumes decrease, the total revenue recovered from this tariff category decreases too, by 5%, even though the revenue recovered from each unit is higher. However, this is a greater decrease than the decrease in the number of MPANs. This leads to the total revenue recovered per MPAN actually increasing.

This effect is most prominent for SSEH, and is a result of the ratio of units to MPANs for the remaining HH metered volumes.

Figure 4.5: Impact on typical bills



<sup>6</sup> This is calculated as  $\text{reduction in units per MPAN} = 1 - \frac{1 - \text{Reduction in units}}{1 - \text{Reduction in MPANs}}$



Table 4.4: Detail of impact on typical bills

Tariff	ENWL	NPgN	NPgY	SSEH	SSES	SPD	SPMW	LPN	SPN	EPN	EMID	WMID	SWEST	SWALES
Domestic Unrestricted	0.1%	0.1%	0.1%	0.5%	-	0.1%	0.1%	-	-	-	0.1%	0.1%	0.1%	0.1%
Domestic Two Rate	0.1%	0.2%	0.1%	0.6%	0.0%	0.2%	0.1%	-	0.0%	-	0.1%	0.1%	0.2%	0.2%
Domestic Off Peak (related MPAN)	0.1%	0.3%	0.2%	0.9%	-	0.4%	0.2%	-	0.1%	0.4%	-	-	-	-
Small Non Domestic Unrestricted	0.0%	0.1%	0.1%	0.5%	0.1%	0.1%	0.1%	-	0.1%	-	0.1%	0.1%	0.1%	0.2%
Small Non Domestic Two Rate	0.1%	0.2%	0.1%	0.5%	0.0%	0.2%	0.1%	-	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%
Small Non Domestic Off Peak (related MPAN)	0.1%	0.3%	0.2%	0.9%	0.2%	0.2%	0.2%	-	0.1%	-	-	-	-	-
LV Medium Non-Domestic	0.1%	0.2%	0.1%	0.6%	0.1%	0.2%	0.1%	-0.0%	0.0%	-	0.1%	0.1%	0.2%	0.2%
LV Sub Medium Non-Domestic	0.1%	0.2%	-	-	-	-	0.1%	-	-	-	0.0%	0.1%	0.2%	0.2%
HV Medium Non-Domestic	0.1%	0.2%	0.1%	0.6%	0.0%	0.2%	0.1%	-	-	-	0.1%	0.1%	0.1%	0.1%
LV Network Domestic	0.0%	0.1%	0.1%	0.5%	0.0%	0.1%	0.1%	-	0.0%	-	0.1%	0.1%	0.1%	0.1%
LV Network Non-Domestic Non-CT	0.1%	0.2%	0.1%	0.5%	0.0%	0.2%	0.1%	-	0.0%	-	0.1%	0.1%	0.1%	0.2%
LV HH Metered	0.1%	0.2%	0.2%	0.0%	0.1%	0.2%	0.1%	-0.0%	0.0%	0.1%	0.2%	0.2%	0.4%	0.3%
LV Sub HH Metered	0.1%	0.2%	0.3%	0.6%	0.1%	0.3%	0.1%	-0.0%	0.1%	0.0%	0.3%	0.2%	0.4%	0.5%
HV HH Metered	-0.1%	-0.4%	0.1%	-2.3%	-0.2%	-0.0%	-0.0%	-0.0%	-0.1%	-0.1%	0.0%	0.0%	0.3%	0.2%
LV HH Metered Storage Import	-38.7%	-51.7%	-66.1%	1.2%	-60.4%	-64.6%	-42.8%	41.5%	-37.9%	-34.1%	-60.8%	-53.9%	-64.0%	-66.9%
LV Sub HH Metered Storage Import	-59.0%	-72.7%	-71.5%	-43.3%	-66.1%	-69.5%	-39.0%	-25.6%	-55.2%	-41.1%	-59.9%	-47.2%	-68.5%	-77.2%
HV HH Metered Storage Import	-19.2%	-39.4%	-57.9%	-14.2%	-9.8%	-51.6%	-50.1%	15.8%	-5.8%	7.5%	-44.9%	-43.3%	-65.6%	-56.9%
NHH UMS category A	0.0%	0.2%	0.1%	0.4%	0.0%	0.2%	0.1%	-	0.0%	-	0.1%	0.1%	0.1%	0.1%
NHH UMS category B	0.0%	0.2%	0.2%	0.4%	-	0.2%	0.1%	-	0.0%	-	0.1%	0.1%	0.1%	0.1%
NHH UMS category C	0.0%	0.1%	0.1%	0.4%	0.0%	0.1%	0.1%	-	-	-	0.1%	0.1%	0.1%	0.1%
NHH UMS category D	0.0%	0.2%	0.1%	0.4%	0.0%	-	-	-	-	-	0.1%	0.1%	-	-
LV UMS (Pseudo HH Metered)	0.0%	0.2%	0.1%	0.4%	0.0%	0.2%	0.1%	-	0.0%	-	0.1%	0.1%	0.1%	0.1%



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