Statement of LDZ Transportation Charges

Effective from
1st April 2020

WALES&WEST UTILITIES

Contents

1.0 Introduction

This publication sets out the Local Distribution Zone (LDZ) transportation charges which will apply from 1st April 2020 for the use of the Wales & West Utilities Ltd (WWU) Distribution Network (DN), as required by Standard Special Condition A4 of the Gas Transporter Licence. This document does not override or vary any of the statutory, licence or Uniform Network Code (UNC) obligations upon WWU.

Our final transportation price change will be an average decrease of 5.0% comprising:

<table>
<tr><th colspan="5">Average Price Change</th></tr>
<tr><td colspan="5">-5.0%
(Indicative: -4.8%)</td></tr>
<tr><th colspan="3">Transportation Income</th><th colspan="2">Exit Capacity</th></tr>
<tr><td colspan="3">Final: -0.6%
(Indicative: -0.2%)</td><td colspan="2">Final: -42.6%
(Indicative: -43.4%)</td></tr>
<tr><th colspan="2">Capacity</th><th>Commodity</th><th colspan="2">Exit Zone</th></tr>
<tr><td rowspan="2">System</td><td rowspan="2">Customer</td><td rowspan="6">Final: -3.4%
(Indicative: 22.1%)</td><td>SW1</td><td>-42.1% (-43%)</td></tr>
<tr><td>SW2</td><td>-41.6% (-43%)</td></tr>
<tr><td rowspan="4">Final: -0.0%
(Indicative: -0.5%)</td><td rowspan="4">Final: -1.8%
(Indicative: -1.9%)</td><td>SW3</td><td>-38.6% (-40%)</td></tr>
<tr><td>WA1</td><td>-42.0% (-42%)</td></tr>
<tr><td>WA2</td><td>-78.8% (-79%)</td></tr>
</table>

Please note that Ofgem has published a consultation and 'minded to' position with regard to Exit Capacity Charges. We are currently working with the NTS and Ofgem. If there is a material change to our forecast or allowed revenue from this work we may require a price change this October.

For more information about these changes, or our charges, please do not hesitate to contact the pricing team on 02920 278838.

1.1. Uniform Network Code (UNC)

UNC is supported by an integrated set of computer systems currently referred to as UK Link. The charges and formulae in this booklet will be used in the calculation of charges within UK Link, which are definitive for billing purposes.

There are a number of areas of the UNC that impact upon the cost to Shippers of using the transportation network, such as imbalance charges, scheduling charges, capacity over-runs

and ratchets, top-up neutrality charges and contractual liability. Reference should be made to the UNC – as modified from time to time – for details of such charges and liabilities. The UNC and related documents can be found on the Joint Office of Gas Transporters website (www.gasgovernance.co.uk).

1.2. Invoicing

The Xoserve Invoicing team produce and issue the invoices that are derived from the transportation charges shown within this publication. To clarify the link between pricing and invoicing, charge codes and invoice names are included in Section 6.

For more information on invoicing, please contact Xoserve, the invoicing service provider, via e-mail at css_billing@xoserve.com.

1.3. Distribution Price Control Formula – RIIO GD1

Distribution charges are derived in relation to a price control formula set by Ofgem within the RIIO framework. This formula dictates the maximum revenue that can be earned from the transportation of gas. Should the DN operator earn more or less than the maximum permitted revenue in any formula year, a compensating adjustment is made two years hence. Under the revised Licences the normal date for changing any of the charges will be 1 April annually.

Within the Network price control, revenue recovery is split between LDZ system charges and LDZ customer charges. The relative level of these charges is based on the relative level of costs of these areas of activity. LDZ exit capacity charges recover the costs passed through from National Grid Transmission.

The prices levied for 2020/21 are set in accordance with the current forecast maximum allowed revenue for both transportation income and exit capacity income. Section 2 sets out in more detail how our allowance is derived.

1.4. Theft of Gas

The licensing regime places incentives on Transporters, Shippers and Suppliers to take action in respect of suspected theft of gas. Certain costs associated with individual cases of theft are recovered through transportation charges. The charges reflect these requirements, with the Transporter not gaining or losing financially when taking one year with another.

The total transportation income for 2020/21 has been decreased by £0.2m in respect of net recoveries made in 2018/19 by WWU under its licence obligation.

2.0 Allowed Revenue

2.1. Maximum Allowed Revenue

RIIO GD1 requires networks to set charges to collect the forecast allowed revenue calculated under the price control. This allowance is split between transportation revenue, and Exit Capacity revenue which recovers the costs incurred from utilising the upstream network, the National Transmission System (NTS).

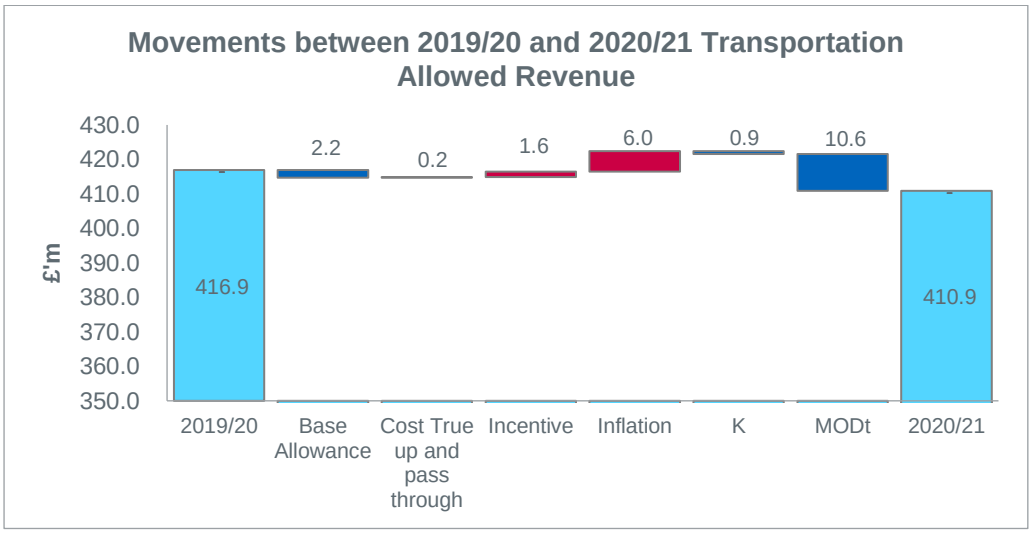
	Forecast allowed revenue for 2019/20 (£m)	Forecast allowed revenue for 2020/21 (£m)	Movement (£m)	Movement (%)
Transportation	416.9	410.9	-6.0	-1%
Exit Capacity	58.0	27.9	-30.1	-52%
Total	474.9	438.7	-36.2	-8%

Final allowed revenue is not known until the completion of the relevant year. This is because some licence terms will not crystallise until the completion of the relevant year. Currently 2020/21 allowed revenue forecast includes an assumption for:

1. NIA (National Innovation Allowance) which is allowed based on the minimum of either 90% of incurred expenditure in the year or 90% of 0.5% of base allowance.

Transportation Revenue (£410.9m)

Our forecasted maximum allowed transportation revenue increases by £6.0m in 2020/21.



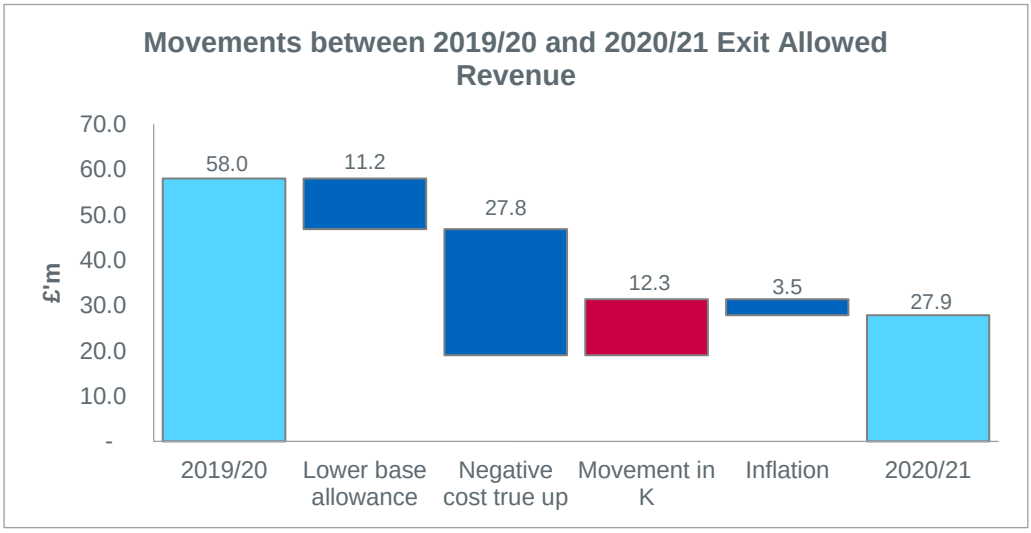
The most notable movements in the underlying drivers which make up the network allowance are:

1. A lower base allowance, set at final proposals for RIIO-GD1.
2. Higher incentive revenue, the majority of which relates to increased environmental emissions incentive income.
3. Increased RPI uplift to nominals taking final proposals from 2009/10 prices to current prices. This reflects inflation in the UK of over 3% and is representative of the cost inflation a network would anticipate experiencing.
4. A greater give back from MODt reflecting predominantly the reductions in cost of debt allowance compared to at final proposals.

2.3. Exit Capacity Revenue (£27.9m)

Following the implementation of Uniform Network Cost Modification 0195AV, industry arrangements for the charging of NTS Exit Capacity costs changed on 1st October 2012. National Grid Transmission (NTS) invoices Distribution Networks (DNs) based on the NTS published prices effective, and the Exit Point bookings made by the DNs. Ofgem provide an allowance to networks to recover the anticipated cost of Exit Capacity, and a mechanism to adjust where these costs fall outside those anticipated.

For 2020/21 our allowances decrease to £27.9m:



The most significant movement relates to the cost true up. The figure of £27.8m represents the difference between the cost true up from 2017/18 and 2018/19 respectively. In 2017/18 WWU was subject to a large cost increase which meant the cost true up in 2019/20 was a positive to WWU of £13.9m, where as in 2018/19 our exit costs were much lower than our allowance, therefore the opposite was true. The resulting cost true up impacting 2020/21 is a give back of £13.9m, so the movement year on year is £27.8m.

We continue to work with NTS and the industry, in delivering a more predictable and stable charging regime from the NTS and to ensure that we have better alignment between costs and allowances for RIIO-GD2. This should result in a reduction in the volatility of charges to ourselves and those consequently passed on to our customers through our exit capacity charges two years later. It is expected this new regime for NTS will be effective from October 2020.

The negative movement in base allowance reflects an increase to 2019/20 base allowance that WWU requested in 2017/18 on the basis of indicative NTS charges at the time. There was no such increase requested for 2020/21.

In December 2018 WWU implemented a price decrease as NTS costs from October 2018 were significantly lower than forecast (using previous NTS indicatives as a basis). This price decrease meant that we did not recover our total allowed revenue and the corresponding positive 'k' falls into the 2020/21 regulatory year.

3.0 Transportation Charges

3.1. Final Charges from 1 April 2020

	Systems Capacity	Customer Capacity	Commodity
	Pence per peak day kWh per day		Pence per kWh
Up to 73,200 Kwh Per Annum	0.1993	0.1049	0.0334
73,200 Kwh - 732,000 Kwh Per Annum	0.1729	0.0041	0.0292
732,000 Kwh Per Annum and Above	1.5485	0.0828	0.3389
	x SOQ ^		
	-0.2513	-0.2100	-0.2775
Subject to a Minimum Rate of	0.0147	N/A	0.0024
Minimum Rate Reached at	111,820,949	N/A	55,878,458

These rates reflect those published 31st January 2020.

LDZ Customer Charges

For supply points with an AQ of less than 73,200 kWh per annum, the customer charge is a capacity charge.

For supply points with an AQ between 73,200 and 732,000 kWh per annum, the customer charge is made up of a fixed charge which depends on the frequency of meter reading, plus a capacity charge based on the registered supply point capacity (SOQ).

For supply points with an AQ of over 732,000 kWh per annum, the customer charge is based on a function related to the registered supply point capacity (SOQ).

In addition to the charges in 3.1, the following fixed charge applies to supply points with an AQ between 73,200 and 732,000:

Supply Point fixed charge	Fixed Charge pence/day
Non-monthly read	32.5830
Monthly read	34.6938

CSEP Charging

In the calculation of the LDZ charges payable, the unit commodity and capacity charges are based on the supply point capacity equal to the CSEP peak day load for the completed development irrespective of the actual stage of development. The SOQ used is therefore the estimated SOQ for the completed development as provided in the appropriate Network Exit Agreement (NExA). For any particular CSEP, each shipper will pay identical LDZ unit charges regardless of the proportion of gas shipped. Reference needs to be made to the relevant NExA or CSEP ancillary agreement to determine the completed supply point capacity.

3.2. Optional LDZ Charge

The optional LDZ tariff is available, as a single charge, as an alternative to the standard LDZ system charges. This tariff may be attractive to large loads located close to the NTS. The rationale for the optional tariff is that, for large Network loads located close to the NTS or for potential new Network loads in a similar situation, the standard LDZ tariff can appear to give perverse economic incentives for the construction of new pipelines when Network connections are already available. This could result in an inefficient outcome for all system users.

The charge is calculated using the function below:

Pence per peak day kWh per day
$902 \times [(SOQ)^{\wedge -0.834}] \times D + 772 \times (SOQ)^{\wedge -0.717}$

Where: (SOQ) is the Registered Supply Point Capacity, or other appropriate measure, in kWh per day and D is the direct distance, in km, from the site boundary to the nearest point on the NTS. Note that ^ means “to the power of”.

3.3. Exit Capacity

Prices effective 1 April 2020

Exit Capacity Unit Rates by Exit Zone	Pence per peak day kWh per day
SW1	0.0073
SW2	0.0241
SW3	0.0290
WA1	0.0316
WA2	0.0007

4.0 Other Charges

Shared supply meter point arrangements

An allocation service for daily metered supply points with AQs of more than 58,600 mWh per annum is available. This allows up to four (six for Very Large Daily Metered Customers, those with an AQ of more than 1,465,000 mWh/annum) shippers / suppliers to supply gas through a shared supply meter point.

The allocation of daily gas flows between the shippers / suppliers can be done either by an appointed agent or by the transporter.

The administration charges which relate to these arrangements are shown below. Individual charges depend on the type of allocation service nominated and whether the site is telemetered or non-telemetered.

The charges are (expressed as £ per shipper per supply point):

Agent Service

	Telemetered	Non-telemetered
Set-up charge	£107.00	£183.00
Shipper-shipper transfer charge	£126.00	£210.00
Daily charge	£2.55	£2.96

Transporter Service

	Telemetered	Non-telemetered
Set-up charge	£107.00	£202.00
Shipper-shipper transfer charge	£126.00	£210.00
Daily charge	£2.55	£3.05

5.0 LDZ System Entry

5.1. DN Entry Commodity Charge/Credit

DN Entry Commodity charges reflect the costs of receiving gas from an entry point at a lower pressure tier than the NTS. The charge/credit will differ according to the amount of gas entering the network system, the pressure tier at which the gas enters the system and the operational costs resulting from the entry point.

The charge, which comprises the following three elements, is an adjustment to the full transportation charge:

i. **Lower System Usage**: For the gas received from this source the Shippers will get a credit in recognition that the gas has entered the network at a lower pressure tier, thus using less of the network system.

ii. **Avoidance of Exit Capacity**: The Shipper will receive a credit for the avoidance of exit capacity charges as they have not taken gas which has entered the Wales & West network through the National Transmission offtake point.

iii. **Operational Costs:** The Shipper will be charged an operational cost, principally maintenance, relating to the equipment owned and operated by the Gas Distribution Network.

The sum of the above three components may result in either a credit or a debit to the Shipper. The table below gives the entry commodity unit price for all known sites within the Wales & West Network set to operate during 2020/21. Where additional sites are connected which are not currently planned to flow during 2020/21 these will be published if and when information on pressure tier, specific opex costs and flows are available. Typically this may not be until a Gemini site name is allocated to the connection.

LDZ System Entry Commodity Charge/Credit by DN Entry point

Site Name	GEMINI Name	Alias	LDZ System Entry Commodity Charge (p/kWh) Current Prices	LDZ System Entry Commodity Charge (p/kWh) Prices effective 1 April 2020
Bromham House Farm	BROMOS		-0.1061	-0.0969
Cannington Biomethane	CANNOS		-0.1096	-0.1005
Bishops Cleeve Biomethane	CLEEOS	Grundon Landfill / Wingmoor Farm	-0.0970	-0.0876
Enfield Biomethane	ENFDOS		-0.0565	-0.0462
Five Fords Biomethane	FIVEOS		-0.0161	-0.0052
Fraddon	FRADOS	Penare Farm	-0.0920	-0.0825
Frogmary Biomethane	FROGOS		-0.1061	-0.0969
Great Hele Biomethane	HELEOS	Nadder Lane	-0.0603	-0.0501
Helscott Farm	HELSOS		-0.1061	-0.0969
Rotherdale	ROTHOS	Vale Green 2	-0.0727	-0.0626
Spittles Farm	SPITOS	Bearley Farm	-0.1061	-0.0969
Springhill Biomethane	SPNGOS		-0.0515	-0.0411
Pennans Farm	TBC		-0.1061	-0.0969
Lords Meadow	TBC	Crediton	-0.1061	-0.0969
Northwick	NOCKOS		-0.0756	-0.0657
Avonmouth Wessex	WESXOS	Wessex Water	-0.1172	-0.1081
Willand	WILLOS		-0.1061	-0.0969
Wyke Farm	WYKEOS		-0.1122	-0.1030
Evercreech Biomethane	EVEROS		-0.1167	-0.1076
Trowbridge Biomethane	TRWBOS		-0.0515	-0.0531

6.0 Charge Types and Invoice Mapping

6.1. Xoserve Charge Mapping

The following list presents the core invoice and charge types reflected in this document, which are billed by Xoserve on our behalf.

A full list of current invoice and charge types is available through the Xoserve Shared Area.

	Invoice Type	Charge Type
LDZ Capacity		
Supply Point LDZ Capacity	CAZ	ZCA
CSEP LDZ Capacity	CAZ	891
Unique Sites LDZ Capacity Charge	CAZ	871
Unique Sites Optional Tariff	CAZ	881
Customer Capacity		
Customer LDZ Capacity	CAZ	CCA
Customer Capacity Fixed Charge	CAZ	CFI
Unique Sites Customer Capacity	CAZ	872
Commodity		
LDZ Commodity	COM	ZCO
CSEP Commodity	COM	893
Unique Sites Commodity	COM	878
LDZ System Entry Commodity Charge	COM	LEC
Exit Capacity		
LDZ Exit Capacity	CAZ	ECN
CSEP Exit Capacity	CAZ	C04
Unique Sites Exit Capacity	CAZ	901
Other Charges		
LDZ Shared Supply Admin Charge	CAZ	883
CSEP Admin Charge	CAZ	894

7.0 Example Charges

Example Charges

This section provides illustrative examples of how transportation prices are used to calculate a bill for different load bands. Charges produced by UK Link are definitive for charging purposes and take precedence to any of the examples listed in this section. Calculations below are subject to rounding and should be regarded as purely illustrative. The commodity charges in these examples are based on the supply point AQ, but the actual charges would vary depending on the actual consumption of the supply point for that period.

Example 1

A shipper has a daily metered customer in Cardiff, with an annual consumption (AQ) of 20,000,000 kWh and a registered supply point capacity (SOQ), booked directly by the shipper of 100,000 kWh per day.

	Charge Type	Calculation	Result
+	LDZ Capacity **Invoice:** LDZ Capacity (ZCA) **See**: Page 8 **Basis:** p / peak day kWh / day	**Annual Volume:** 365 days x 100,000 (SOQ) **Unit Rate**: 1.5485 × 100,000^-0.2513 **Annual Charge:** Annual Volume x Unit Rate	36,500,000 kWh 0.0858 p / pd kWh / day £31,317.00
+	LDZ Commodity **Invoice:** Commodity (ZCO) **See**: Page 8 **Basis:** p / kWh	**Annual Volume:** 20,000,000 kWh (AQ) **Unit Rate**: 0.3389 × 100,000 (SOQ) ^ -0.2775 **Annual Charge:** Annual Volume x Unit Rate	20,000,000 kWh (AQ) 0.0139 p / kWh £2,780.00
+	Customer (Capacity) **Invoice:** LDZ Capacity (CCA) **See**: Page 8 **Basis:** p / peak day kWh / day	**Annual Volume:** 365 days x 100,000 (SOQ) **Unit Rate**: 0.0828 × 100,000(SOQ) ^ -0.2100 **Annual Charge:** Annual Volume x Unit Rate	36,500,000 kWh 0.0074 p / pd kWh / day £2,701.00
+	Exit Capacity Charges **Invoice:** LDZ Capacity (ECN) **See**: Page 10, for WA2 value **Basis:** p / peak day kWh / day	**Annual Volume:** 365 days x 100,000 (SOQ) **Unit Rate**: 0.0007 p / pd kWh / day **Annual Charge:** Annual Volume x Unit Rate	36,500,000 kWh 0.0007 p / pd kWh / day £255.50
=	Total Network Charge	Total Annual Network Charge	£37,053.50

Unit Charge: Dividing by the annual load of 20,000,000 kWh gives a unit charge 0.1853 pence per kWh.

Example 2

A shipper has a non-prepayment domestic customer in the South West. Suppose the load has an AQ of 12,000 kWh per annum. This annual load places the end user in category SW:E1901BND. Load factor of 29.3%. The peak daily load (SOQ) is therefore 12,000 ÷ (365 × 0.293) = 112 kWh.

	Charge Type	Calculation	Result
+	LDZ Capacity **Invoice**: LDZ Capacity (ZCA) **See**: Page 8 **Basis**: p / peak day kWh / day	**Annual Volume:** 365 days x 112 (SOQ) **Unit rate**: 0.1993 p / pdkWh **Annual Charge:** Annual Volume x Unit rate	40,880 kWh 0.1993 p / pdkWh £81.47
+	LDZ Commodity **Invoice:** Commodity (ZCO) **See**: Page 8 **Basis:** p / kWh	**Annual Volume:** 12,000 kWh (AQ) **Unit rate**: 0.0334 p / kWh **Annual Charge:** Annual Volume x Unit rate	12,000 kWh (AQ) 0.0334 p / kWh £4.01
+	Customer (Capacity) **Invoice:** Capacity (CCA) **See:** Page 8 **Basis:** p / kWh	**Annual Volume:** 365 days x 112 (SOQ) **Unit rate**: 0.1049 p / pdkWh **Annual Charge:** Annual Volume x Unit rate	40,880 kWh 0.1049 p / pdkWh £42.88
+	Exit Capacity Charges **Invoice:** LDZ Capacity (ECN) **See**: Page 10, for SW3 value **Basis:** p / peak day kWh / day	**Annual Volume:** 365 days x 112 (SOQ) **Unit rate**: 0.0290 pdkWh / day **Annual Charge:** Annual Volume x Unit rate	40,880 kWh **Unit rate**: 0.0290 pdkWh / day £11.86
=	Total Network Charge	Total Annual Network Charge	£140.22

Unit Charge: Dividing by the annual load of 12,000 kWh gives a unit LDZ charge of 1.1685 pence per kWh.

Example 3

Suppose that instead of supplying just one domestic customer in the South West (as in Example 2) the shipper supplies a connected system presently comprising 100 domestic customers and the completed connected system will comprise 150 domestic premises. Suppose that each of these premises has the same (AQ) of 12,000 kWh/yr.

Prevailing AQ (pre AQ)	100 houses × 12,000 (AQ) = 1,200,000 kWh
Maximum AQ (max AQ)	150 houses × 12,000 (AQ) = 1,800,000 kWh
Prevailing SOQ (pre SOQ)	1,200,000 ÷ (365 × 0.293) = 11,221 kWh
Maximum SOQ (max SOQ)	1,800,000 ÷ (365 × 0.293) = 16,831 kWh

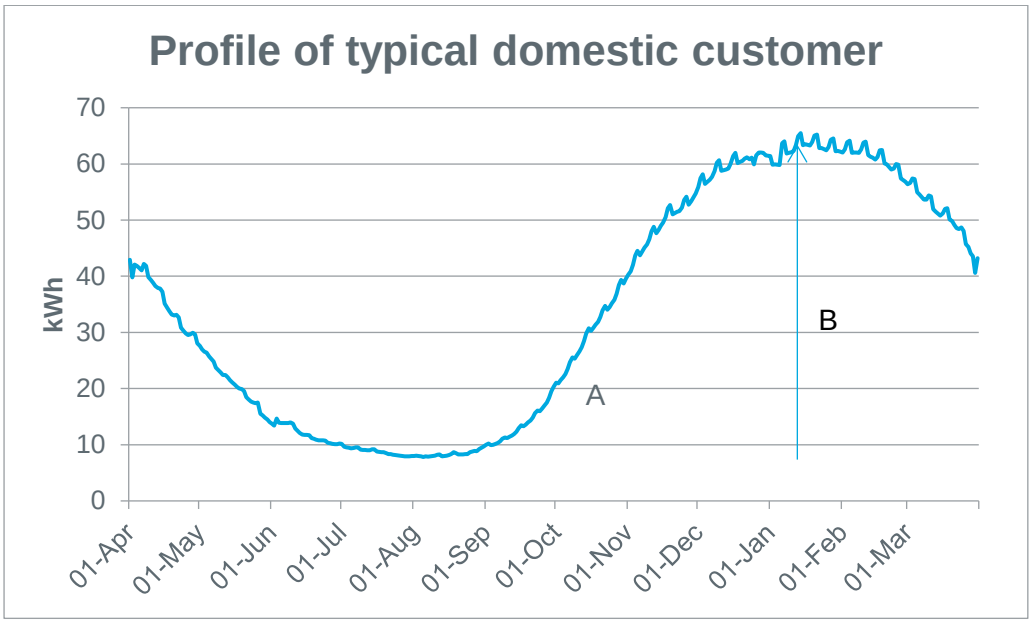
Note that the prevailing annual and peak day loads of the connected system in effect would change over the year however, for simplicity, these have been assumed as constant in this example.

	Charge Type	Calculation	Calculation
+	CSEP Capacity **Invoice:** ADC (891) **See:** Page 8 **Basis:** p / peak day kWh / day	**Annual Volume:** 365 days × 11,221 (pre SOQ) **Unit Rate**:1.5485 × 16,831 (max SOQ)$^{-0.2513}$ **Annual Charge:** Annual Volume x Unit rate	4,095,563 kWh 0.1342 p / pdkWh / day £5,496.25
+	CSEP Commodity **Invoice:** ADC (893) **See**: Page 8 **Basis:** p / kWh	**Annual Volume:** 1,200,000 kWh (pre AQ) **Unit rate**: 0.3389 × 16,831 (max SOQ) ^ $^{-0.2775}$ **Annual Charge:** Annual Volume x Unit rate	1,200,000 kWh (pre AQ) 0.0228 p / kWh £273.60
+	CSEP Exit Capacity Charges **Invoice**: CSEP Capacity (ECN) See: Page 10 Basis: p / supply point / day	**Annual Volume:** 365 days x 11,221 (pre SOQ) **Unit rate**: 0.0290 pdkWh / day **Annual Charge:** Annual Volume x Unit rate	4,095,563 kWh 0.0290 pdkWh / day £1,187.71
=	Total Network Charge	Total Annual Network Charge	£ 6,957.56

Unit Charge: Dividing by the annual load of 1,200,000 kWh gives a unit LDZ charge of 0.58 pence per kWh.

8.0 Supporting information

8.1. AQ, SOQ and Load Factors



Each year users will consume gas (with a total consumption represented above by the area A). The consumption by day will vary, for example weekend vs weekday, holiday vs non holiday, and impacts of the seasons. Typically, especially for domestic consumers, consumption will be lowest in the warm summer months and highest in the winter, peaking around January.

Our network is built to at least supply all our connections in a 1:20 winter day (not just an average winter). Therefore, charges are levied in consideration of:

1. The total volume of gas consumed
2. The peak requirement, which is known as the Supply Offtake Quantity (SOQ).

For daily metered customers, there is a requirement to specify both the annual quantity (AQ) and the peak requirement (SOQ). For non-daily metered customers, analysis is performed annually to provide an estimated SOQ for a given annual quantity.

Non-daily metered customers are designated an SOQ. This designation is arrived with reference to the loads assessed Peak Load Factor (PLF/LF). The Load factor is derived annually by the Demand Estimation Committee (DESC), a committee under UNC governance. The most relevant weather scenarios are modelled, together with the sensitivity to weather across a sample of meter points. This modelling provides a LF which is used to estimate the peak requirement, under a 1:20 for a given Annual Quantity (which would be represented by area A above, where B would be the supply point SOQ).

For example, a domestic, non-prepayment user in South Wales is assessed to have a load factor of 30.7% (for 2020/21 charging year). The SOQ will therefore be 10kWh:

$$SOQ = \frac{AQ}{DAYS\ IN\ YEAR} * LF$$

$$SOQ = \frac{12{,}000}{365} * 30.7\% = 10.093\ (3dp) = 10kWh\ (0dp)$$

Therefore, as our network is built to supply a 1:20, our charges are levied on the 1:20 requirement, denoted by the SOQ for a given supply point.

8.2. End User Categories

Larger loads will typically exhibit different profiles and sensitivities impacting the profile of their usage, and their peak requirement. The End User Category (EUC) enables a definition of consumers into categories, the basis of which includes geography (LDZ), typical annual consumption (AQ) and in some cases, winter consumption (WAR).

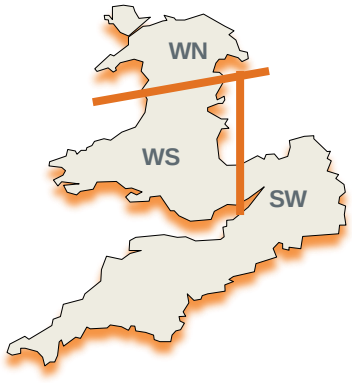
Consultation on end user categories

Section H of the Network Code requires the Transporter to publish, by the end of June each year, its demand estimation proposals for the forthcoming supply year. These proposals comprise end user category definitions, NDM profiling parameters (ALPs and DAFs), and capacity estimation parameters (EUC load factors). The analysis is presented to users and the Demand Estimation Sub-Committee (a sub-committee of the Network Code Committee) is consulted before publication of the proposals.

A change was implemented during year which introduced additional End User Categories (EUCs) in Band 1 (0 to 73.2) and Band 2 (73.2 to 293). These new EUCs allow profiles to be assigned to Domestic, Non-Domestic and Pre-Payment consumers. Therefore, DESC now provide LFs across 15 bands:

EUC Attribute (xx=LDZ)	Lower AQ Band (kWh)	Upper AQ band (kWh)	
xx:E1901BND	0	73,200	SMALL NDM SECTOR
xx:E1901BNI	0	73,200	
xx:E1901BPD	0	73,200	
xx:E1901BPI	0	73,200	
xx:E1902BND	73,201	293,000	
xx:E1902BNI	73,201	293,000	
xx:E1902BPD	73,201	293,000	
xx:E1902BPI	73,201	293,000	
xx:E1903B	293,001	732,000	
xx:E1904B	732,001	2,196,000	
xx:E1905B	2,196,001	5,860,000	LARGE NDM SECTOR
xx:E1906B	5,860,001	14,650,000	
xx:E1907B	14,650,001	29,300,000	
xx:E1908B	29,300,001	58,600,000	
xx:E1909B	58,600,001	-	Large NDM customers who exceed the threshold for mandatory daily metering

For WWU, our LDZs are WN (Wales North), WS (Wales South) and SW (South West) covering the area:



EUC WAR Bands

EUCs 03 to 08 (Annual Quantities between 293,000 kWh and 58,600,000 kWh) have a further four sub-divisions for the Winter Annual Ratio "WAR" bands, which aim to assign supply points to an EUC which is more aligned to their within-year usage pattern. WAR Bands are derived from the ratio of the supply point's Winter Consumption to its

Annual Quantity (AQ), i.e. it's "WAR". The WAR for a gas year is calculated based on reads loaded during the previous winter and requires a start read to be accepted for a date between November 1st and December 31st and an end read to be accepted for a date between March 1st and April 30th. The calculation will then attempt to derive a consumption for a 121 day period. The consumption for the winter 2019/20 will be used to determine a ratio to apply from 1st October 2020 onwards. The absence of a valid winter consumption or a ratio of greater than 1 will result in the generic B EUC being applied rather than a WAR Band EUC. NDM Supply Points in these EUCs should all be subject to monthly meter reading.

It is mandatory for supply points with an annual consumption greater than 293,000 kWh to be monthly read. However, at the shipper's request sites below this consumption may also be classified as monthly read.

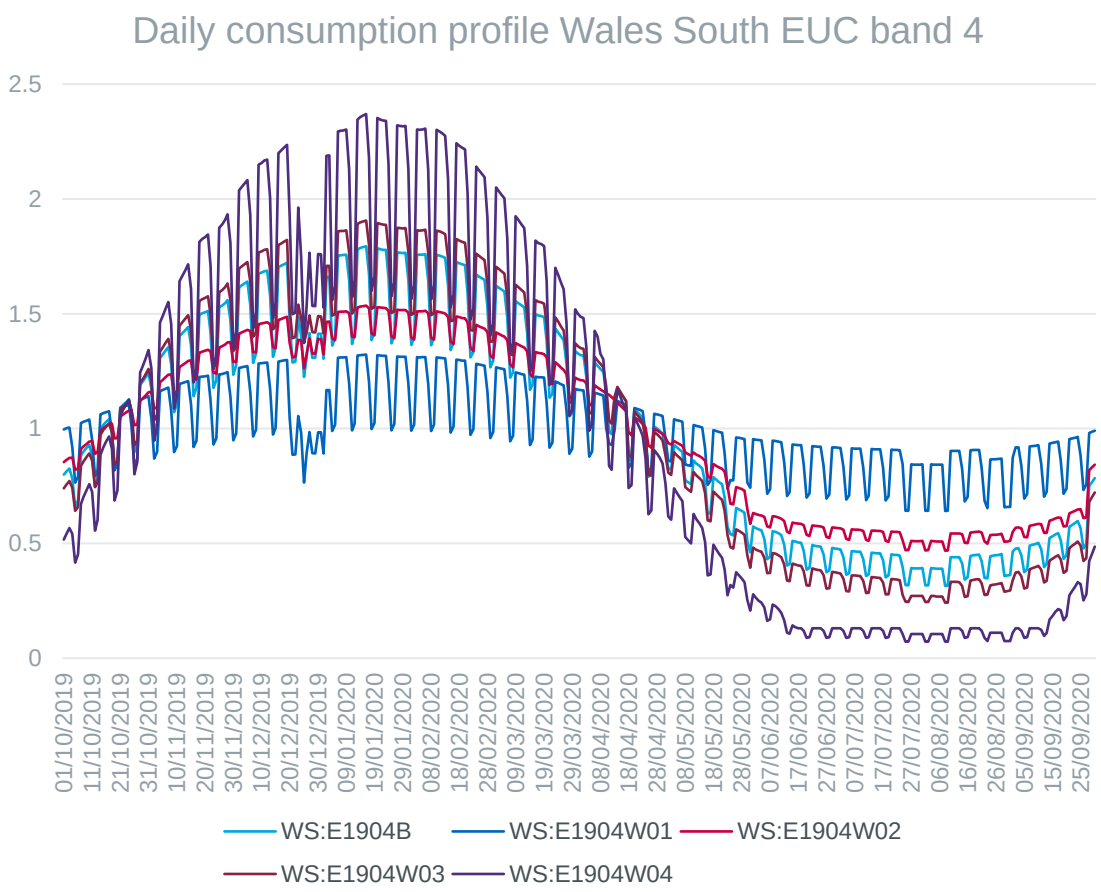
The peak load for an NDM supply point may then be calculated as:

EUC Definitions for Gas Year 2019-20						
EUC Attribute (xx=LDZ)	**Lower AQ Band (kWh)**	**Upper AQ band (kWh)**	**WAR Band 1 (y=W01)**	**WAR Band 2 (y=W02)**	**WAR Band 3 (y=W03)**	**WAR Band 4 (y=W04)**
xx:E1903W0y	293,001	732,000	0.000 - 0.405	0.406 - 0.463	0.464 - 0.535	0.536 - 1.000
xx:E1904W0y	732,001	2,196,000	0.000 - 0.405	0.406 - 0.463	0.464 - 0.535	0.536 - 1.000
xx:E1905W0y	2,196,001	5,860,000	0.000 - 0.370	0.371 - 0.437	0.438 - 0.506	0.507 - 1.000
xx:E1906W0y	5,860,001	14,650,000	0.000 - 0.331	0.332 - 0.395	0.396 - 0.474	0.475 - 1.000
xx:E1907W0y	14,650,001	29,300,000	0.000 - 0.322	0.323 - 0.350	0.351 - 0.415	0.416 - 1.000
xx:E1908W0y	29,300,001	58,600,000	0.000 - 0.322	0.323 - 0.350	0.351 - 0.415	0.416 - 1.000

Where valid reads are not received for a supply point, and the generic 'B' band is allocated there are three implications:

1. The SOQ derived may not be reflective of actual requirements, resulting in charges levied being less reflective of actual system requirements for that supply point;
2. In a constrained network the failure to have an accurate estimated SOQ may place further constraint on network capacity; and
3. The gas allocated to the NDM supply point as part of daily balancing will be inappropriate, resulting in an impact on Unidentified Gas (UiG). The graph below

demonstrates the variability in allocation which would arise between the 'B' band and any one of the alternative WAR bands:



Example

Using a supply point in Wales South LDZ with an annual consumption of 1,000,000 kWh per annum.

Assuming consumption December to March inclusive is 500,000 kWh.

Winter: annual ratio will therefore equal 500,000 ÷ 1,000,000 = 0.5

For a site with an annual consumption of 1,000,000 kWh, a ratio of 0.5 falls within winter: annual ratio band WO3 and the site is thus within End User Category WS: E1904W03 where:

WS:	E19	04	W03
South Wales LDZ	Load factor effective for charging year 20/21	EUC band 04, between 732,000kWh and 2,196,000kWh	WAR band 03, for supply points with a winter consumption between 46.4% and 53.5% of their annual consumption.

For a site in this category, the load factor is 32.1% and the peak daily load is therefore its SOQ will be:

$$SOQ = \frac{AQ}{DAYS\ IN\ YEAR} * LF$$

$$SOQ = \frac{1{,}000{,}000}{365} * 32.1\% = 879.452\ (3dp) = 879kWh\ (0dp)$$

8.3. Load Factors for 2020/21

Load factors are updated annually, effective on the 1st October. For charging purposes, the regulatory year charges are levied based on the prevailing Load Factor in the December prior to the charging year. Therefore, for charging purposes the load factors for 2019/20 gas year remain relevant:

South West									
Band	**B**	**BND**	**BNI**	**BPD**	**BPI**	**W01**	**W02**	**W03**	**W04**
E1901		0.293	0.321	0.331	0.321				
E1902		0.356	0.344	0.331	0.344				
E1903	0.35					0.612	0.434	0.325	0.229
E1904	0.373					0.612	0.434	0.325	0.229
E1905	0.417					0.632	0.506	0.376	0.265
E1906	0.458					0.633	0.61	0.451	0.31
E1907	0.57					0.698	0.714	0.565	0.36
E1908	0.57					0.698	0.714	0.565	0.36
E1909	0.617								

Wales North									
Band	**B**	**BND**	**BNI**	**BPD**	**BPI**	**W01**	**W02**	**W03**	**W04**
E1901		0.311	0.317	0.346	0.317				
E1902		0.38	0.341	0.346	0.341				
E1903	0.349					0.578	0.452	0.32	0.224
E1904	0.357					0.578	0.452	0.32	0.224
E1905	0.422					0.617	0.489	0.365	0.239
E1906	0.501					0.648	0.595	0.44	0.298
E1907	0.618					0.706	0.73	0.595	0.387
E1908	0.618					0.706	0.73	0.595	0.387
E1909	0.627								

Wales South									
Band	B	BND	BNI	BPD	BPI	W01	W02	W03	W04
E1901		0.307	0.323	0.357	0.323				
E1902		0.354	0.344	0.357	0.344				
E1903	0.346					0.586	0.442	0.321	0.233
E1904	0.354					0.586	0.442	0.321	0.233
E1905	0.402					0.636	0.498	0.376	0.261
E1906	0.469					0.633	0.615	0.444	0.303
E1907	0.577					0.699	0.716	0.572	0.356
E1908	0.577					0.699	0.716	0.572	0.356
E1909	0.623								

8.4. Application of the LDZ Charging Methodology

Standard Special Condition A4 of the Gas Transporter (GT) Licence requires the licensee to establish a methodology showing the methods and principles on which transportation charges are based. The present charging methodology was introduced in 1994 and it has been modified from time to time in accordance with the GT Licence.

Objectives of the charging methodology

The transportation charging methodology must comply with objectives set out in the Licence under Standard Special Condition A5 paragraph 5. These are that:

- Compliance with the charging methodology results in charges which reflect the costs incurred by the licensee in its transportation business, and as far as is consistent with this;
- Compliance with the charging methodology facilitates effective competition between gas shippers and between gas suppliers; and
- The charging methodology properly takes account of developments in the transportation business.

In addition to these Licence objectives Wales & West Utilities has its own objectives for the charging regime. These are that the distribution charging methodology should:

- Promote efficient use of the distribution system;
- Generate stable charges; and
- Be easy to understand and implement.

Before the Transporter makes any changes to the methodology it consults with the industry in accordance with Standard Special Condition A5 of the Licence. Ofgem has the right to veto any proposed changes to the methodology.

Structure of charges

The structure of the Network's LDZ charges are split between system related activities and customer related activities.

Whilst total LDZ revenue is determined by the relevant price control, the share of this revenue to be recovered from the LDZ system charges and the LDZ customer charges respectively is based on the relative cost of each area of activity. The current split is shown in the table below.

Table 1 - % Split of LDZ System and LDZ Customer Charges in WWU

Year	System Related (%)	Customer Related (%)	Total (%)
2012 onwards	71.8	28.2	100.0

Having established the target revenue to be derived from each main category of charge, the next step is to structure the charges within each of these charge categories across the load bands such that they reasonably reflect the costs imposed on the system by different sizes of loads. The methodologies used to do this are described in the following sections.

8.5. LDZ System Charges Methodology

Introduction

The LDZ system charges effective are based on the methodology fully described in consultation paper DNPC08 - Review of LDZ Transportation Charges. This methodology is based on an analysis of costs and system usage at a Gas Distribution Network level. The distribution networks contain a series of pipe networks split into four main pressure tiers:

Table 2 - Network Pressure Tiers

Pressure Tier	Operating Pressure
Local Transmission System (LTS)	7 - 38 bar
Intermediate Pressure System (IPS)	2 - 7 bar

Medium Pressure System (MPS)	75 mbar - 2 bar
Low Pressure System (LPS)	Below 75 mbar

Each Network has a similar proportion of LTS, MPS and LPS pipelines but some Networks contain less IPS pipelines. The Low Pressure System comprises the major part of the Network pipeline system. In order to provide a more cost reflective basis for charging, the LPS is sub-divided on the basis of pipe diameter into eight sub-tiers:

2) >600mm
3) 450-600mm
4) 310-450mm
5) 250-310mm
6) 180-250mm
7) 125-180mm
8) 75-125mm
9) <=75mm

The principle underlying the Network charging methodology is that charges should reflect the average use of the network made by customers of a given size, rather than the actual use made by a particular customer. The latter methodology would be too complex to be a practical basis of charging. Analysis has shown that there is a good correlation between customer size and offtake tier. Large customers are typically supplied from higher-pressure tiers and small customers from lower pressure tiers. Such an approach avoids inconsistencies that may arise if neighbouring sites of similar size are connected to different pressure tiers.

Outline of Methodology

The methodology calculates the average cost of utilisation for each of the main pressure tiers of the distribution system. Combining this with the probability of loads within a consumption band using that pressure tier generates a tier charge for an average load within that band. The summation of these tier charges gives the total charge for a load within the consumption band to use the distribution system. The methodology uses average costs rather than marginal costs to reflect the total costs of using the system. The detail below describes the derivation of the capacity charge function and is therefore based on peak daily flows. A similar calculation, based on annual flows, is carried out to determine the commodity charge function. The data used is that from the most recent review carried out in 2010.

Determination of Costs

The costs relating to each pressure tier were derived from the DNPC08 analysis. These costs were split into capacity and commodity elements under DNPC08.

Table 3 - Determination of Tier Costs

Pressure Tier	% Total	Cost (£m)	
		Total	Capacity (95%)
LTS	13.0%	28.2	26.8
IPS	7.3%	16.0	15.2
MPS	15.3%	33.3	31.6
LPS	64.4%	140.4	133.4
TOTAL	100.0%	217.9	207.0

The split of LPS costs down to sub-tier level is based on year 2010 DNPC08 analysis.

Table 4 - Determination of LPS Costs

LPS Sub Tier (Diameter Inches)		% Total Cost	Cost (£m)	
			Total	Capacity (95%)
LP8	>24	0.3%	0.4	0.4
LP7	450>18-24	2.1%	2.9	2.8
LP6	>12-18	3.1%	4.3	4.1
LP5	10-12	10.8%	15.2	14.5
LP4	8-9	19.1%	26.8	25.5
LP3	6-7	15.3%	21.5	20.4

Probability of Pressure Tier / Sub Tier Usage

The probability of a unit of gas, supplied to a customer of given size, having passed through the various pressure tiers / sub tiers within the distribution network is estimated. This estimation is based on the results from a survey of the pressure tier / sub tier at which individual supply points are attached to the pipeline system in conjunction with the results of network analysis.

The calculations carried out under DNPC08 were based upon a 95:05 Capacity: Commodity split of LDZ System revenue. The LDZ System Capacity charges are scaled such that 95% of the target revenue will be recovered by the LDZ System Capacity charges and 5% will be recovered from the LDZ System Commodity charges. DNPC08 gives full details of the charging methodology revision.

Table 5 - System Usage Probability Matrix

Consumption Band (MWh)	Network Tiers			LPS Sub Tiers							
	LTS	IPS	MPS	LP8	LP7	LP6	LP5	LP4	LP3	LP2	LP1
0-73.2	92.88%	55.49%	71.07%	1.84%	8.69%	21.22%	53.07%	67.89%	78.07%	63.96%	18.33%
73.2 - 146.5	92.90%	55.28%	71.96%	2.30%	10.67%	24.42%	51.54%	58.83%	62.87%	47.64%	13.67%
146.5 – 293	92.92%	55.07%	72.62%	2.28%	10.43%	23.15%	50.10%	58.25%	61.82%	46.59%	15.61%
293 – 439	92.94%	54.92%	73.25%	2.11%	8.96%	20.96%	48.54%	59.35%	63.86%	48.94%	15.33%
439 – 586	92.93%	54.97%	73.25%	2.19%	9.33%	20.77%	47.87%	59.38%	61.50%	47.93%	10.55%
586 – 732	92.93%	55.02%	73.29%	2.95%	10.57%	21.51%	47.26%	54.10%	57.84%	44.31%	9.24%
732 - 2,931	92.94%	54.87%	74.17%	2.22%	8.81%	19.16%	45.53%	53.99%	57.34%	42.22%	5.47%
2,931 - 14,654	92.83%	55.69%	75.97%	1.00%	4.72%	12.10%	33.70%	39.09%	34.19%	13.85%	0.57%
14,654 - 58,614	92.59%	57.69%	75.98%	0.69%	3.24%	8.28%	14.04%	15.33%	6.03%	4.79%	0.00%
58,614 - 293,071	93.06%	54.58%	54.98%	0.27%	1.31%	3.37%	4.84%	4.30%	3.31%	3.52%	0.00%
>293,071	96.88%	25.42%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Table 5 shows that for example: the 0-73.2MWh consumption band 92.88% total peak offtake goes through the LTS, 55.49% through the IPS and 71.07% though the MPS.

Pressure Tier / Sub Tier Usage Volumes

The application of usage probabilities to the network peak day offtake volumes provides an estimate of the extent to which the different load bands make use of capacity across the pressure tiers.

Table 6 - Peak Daily Capacity Utilisation (GWh)

	Network Tiers			LPS Sub Tiers							
Consumption Band (MWh)	LTS	IPS	MPS	LP8	LP7	LP6	LP5	LP4	LP3	LP2	LP1
0-73.2	297.9	178.0	227.9	5.9	27.9	68.1	170.2	217.7	250.4	205.1	58.8
73.2 - 146.5	13.3	7.9	10.3	0.3	1.5	3.5	7.4	8.4	9.0	6.8	2.0
146.5 - 293	13.0	7.7	10.1	0.3	1.5	3.2	7.0	8.1	8.6	6.5	2.2
293 - 439	8.1	4.8	6.4	0.2	0.8	1.8	4.2	5.2	5.6	4.3	1.3
439 - 586	6.3	3.7	5.0	0.1	0.6	1.4	3.2	4.0	4.2	3.2	0.7
586 - 732	5.0	2.9	3.9	0.2	0.6	1.1	2.5	2.9	3.0	2.3	0.5
732 - 2,931	28.8	17.0	23.0	0.7	2.7	5.9	14.1	16.8	17.8	13.1	1.7
2,931 - 14,654	25.2	15.1	20.6	0.3	1.3	3.3	9.2	10.6	9.3	3.8	0.2
14,654 - 58,614	25.4	15.9	20.9	0.2	0.9	2.3	3.9	4.2	1.7	1.3	0.0
58,614 - 293,071	32.6	19.1	19.3	0.1	0.5	1.2	1.7	1.5	1.2	1.2	0.0
>293,071	57.6	15.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	513.2	287.2	347.4	8.3	38.2	91.8	223.4	279.4	310.7	247.7	67.3

Cost per Unit of Capacity Utilised

The cost of providing capacity utilised on the peak day within each pressure tier / sub tier per unit of capacity is calculated by the division of capacity related costs by the volume of capacity utilised. In these calculations the LPS is not treated as a single entity but rather as individual sub tiers.

Table 7 - Cost per Unit of Capacity Utilised

	Network Tiers			LPS Sub Tiers							
	LTS	IPS	MPS	LP8	LP7	LP6	LP5	LP4	LP3	LP2	LP1
Capacity Cost (£m)	26.8	15.2	31.6	0.4	2.8	4.1	14.5	25.5	20.4	36.8	28.9
Capacity Utilised (PD GWhs)	513.2	287.2	347.4	8.3	38.2	91.8	223.4	279.4	310.7	247.7	67.3
Unit Cost (p / pdkWh/year)	0.0143	0.0145	0.0249	0.0113	0.0199	0.0122	0.0177	0.0250	0.0180	0.0407	0.1178

Average Cost of Utilisation

The costs calculated in the following table represent the cost per unit of capacity utilised within each pressure tier / sub tier. Charging however is based on the average expected use made of each tier of the pipeline system. The average cost, for customers in each load band, of utilising a particular pressure tier / sub tier, is calculated by multiplying the unit cost of utilising the tier by the probability that the tier is utilised by customers in the load band. This is illustrated below for the MPS.

Table 8 - Example - Average Cost (p / pd kWh / year) of Utilisation of MPS by Load Band

Consumption Band (MWh)	Utilisation Cost	Probability of Use %	Average Cost
0-73.2	0.0249	71.07%	0.0177
73.2 - 146.5	0.0249	71.96%	0.0179
146.5 - 293	0.0249	72.62%	0.0181
293 - 439	0.0249	73.25%	0.0183
439 - 586	0.0249	73.25%	0.0183
586 - 732	0.0249	73.29%	0.0183
732 - 2,931	0.0249	74.17%	0.0185
2,931 - 14,654	0.0249	75.97%	0.0189
14,654 - 58,614	0.0249	75.98%	0.0189
58,614 - 293,071	0.0249	54.98%	0.0137
>293,071	0.0249	0.01%	0.0000

The table ‘Average Cost of Network Utilisation by Consumption Band’ summarises the average cost, by consumption band, of using the complete network system.

Table 9 - Average Cost of Network Utilisation by Consumption Band

Consumption Band (MWh)	Pence / peak day kWh / Annum											
	LTS	IPS	MPS	LP8	LP7	LP6	LP5	LP4	LP3	LP2	LP1	Total
0 - 73.2	0.0133	0.0080	0.0177	0.0002	0.0017	0.0026	0.0094	0.0170	0.0141	0.0261	0.0216	0.1317
73.2 - 146.5	0.0133	0.0080	0.0179	0.0003	0.0021	0.0030	0.0091	0.0147	0.0113	0.0194	0.0161	0.1153
146.5 – 293	0.0133	0.0080	0.0181	0.0003	0.0021	0.0028	0.0089	0.0146	0.0111	0.0190	0.0184	0.1165
293 – 439	0.0133	0.0080	0.0183	0.0002	0.0018	0.0026	0.0086	0.0148	0.0115	0.0199	0.0181	0.1171
439 – 586	0.0133	0.0080	0.0183	0.0002	0.0019	0.0025	0.0085	0.0148	0.0111	0.0195	0.0124	0.1106
586 – 732	0.0133	0.0080	0.0183	0.0003	0.0021	0.0026	0.0084	0.0135	0.0104	0.0181	0.0109	0.1059
732 - 2,931	0.0133	0.0079	0.0185	0.0003	0.0018	0.0023	0.0081	0.0135	0.0103	0.0172	0.0064	0.0997
2,931 - 14,654	0.0133	0.0081	0.0189	0.0001	0.0009	0.0015	0.0060	0.0098	0.0062	0.0056	0.0007	0.0711
14,654 - 58,614	0.0133	0.0084	0.0189	0.0001	0.0006	0.0010	0.0025	0.0038	0.0011	0.0020	0.0000	0.0517
58,614 - 293,071	0.0133	0.0079	0.0137	0.0000	0.0003	0.0004	0.0009	0.0011	0.0006	0.0014	0.0000	0.0396
>293,071	0.0133	0.0037	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0176

Setting the Charging Functions

To provide a workable basis for charging individual customers of differing sizes the total average costs of utilising each tier of the distribution network are plotted. For the capacity charges for directly connected supply points and Cseps these costs are the total costs detailed above. Functions are fitted to the data points such that the error term is minimised. The functions found to best fit the underlying average cost data are in the form of a power of the peak daily load (SOQ) with straight-line elements for the domestic (<73.2 MWh / annum) consumption band and the small I&C consumption band (73.2 to 732 MWh / annum). These functions must then be scaled so that when applied to all supply points connected to the distribution network they are expected to generate the desired target revenue. As is the case for capacity charges, the functions used for commodity charges are the same for CSEPs and directly connected supply points.

8.7. LDZ Customer and Other Charges Methodology

Customer charges reflect supply point costs, namely costs relating to service pipes and emergency work relating to supply points.

Customer Charge Methodology

The customer charge methodology is based on an analysis of the extent to which service pipe and emergency service costs vary with supply point size. This analysis is used to determine the allocation of the recovery of the target revenue (based on Table - Network Cost Breakdown) from supply points grouped in broad load bands. This is described in more detail below.

1) Using ABC cost analysis, the customer cost pool is sub-divided into the following cost pools: service pipes; or emergency works.
2) Each cost pool is then divided among a number of consumption bands based on weighted consumer numbers by consumption band. The consumption bands are based on the annual quantity of gas consumed. The weightings are derived from an analysis of how the costs of providing each of the services listed in 1. above vary with consumption size.
3) For each cost pool, an average cost per consumer is then calculated for each consumption band by dividing by the number of consumers in that consumption band.
4) A total average cost per consumer is then calculated for each consumption band by adding the unit costs of each service that is service pipes and emergency work.
5) Finally, using regression analysis, functions are developed that best fit the relationship between consumption size and total average cost per consumer.

Charges for supply points consuming below 73.2mWh (mainly domestic) consist of just a capacity related charge. Charges for smaller supply points (mainly industrial and commercial), consuming between 73.2 and 732.0 mWh per annum, are based on a capacity-related charge and a fixed charge which varies with meter-reading frequency. Charges for larger I&C supply points are based on a function that varies with supply point capacity.

Charging for Connected Systems (CSEPs)

The standard customer charge is not levied in respect of supply points within CSEPs. However, a CSEP administration charge is levied to reflect the administration costs related to servicing these loads. The methodology for setting this charge was established in 1996 and is based on the same methodology described below for setting Other Charges.

Charges

There are other charges applied to services which are required by some shippers but not by all, for example special allocation arrangements. It is more equitable to levy specific cost reflective charges for these services on those shippers that require them. Income from these charges is included in the regulated transportation income.

The methodology used to calculate the appropriate level of these charges is based on an assessment of the direct costs of the ongoing activities involved in providing the services. The costs are forward looking and consider anticipated enhancements to the methods and systems used. A percentage uplift based on the methodology described in the Transporter's background paper "Charging for Specific Services - Cost Assignment Methodology" (May 1999) is added to the direct costs to cover support and sustaining costs. The latest level of the uplift was published in PD16, Section 5, (November 2002).

8.8. Contact Us

Any questions or queries relating to this document or transportation charges in general please do not hesitate to contact our Pricing Team on 02920 278838 or visit our website:

http://www.wwutilities.co.uk/