



# Distribution Charging Update

# Agenda

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- Charging Methodologies and governance
- Tariff Setting
- HV/LV Connected Customers
- EHV Customers
- 19/20 Charges
- Recent Changes
- Future Changes
- Treatment of storage
- Charging Futures Forum
- Distribution Charging Overview Document
- DCP66A Supplier Reports
- Charging Information Published By WPD

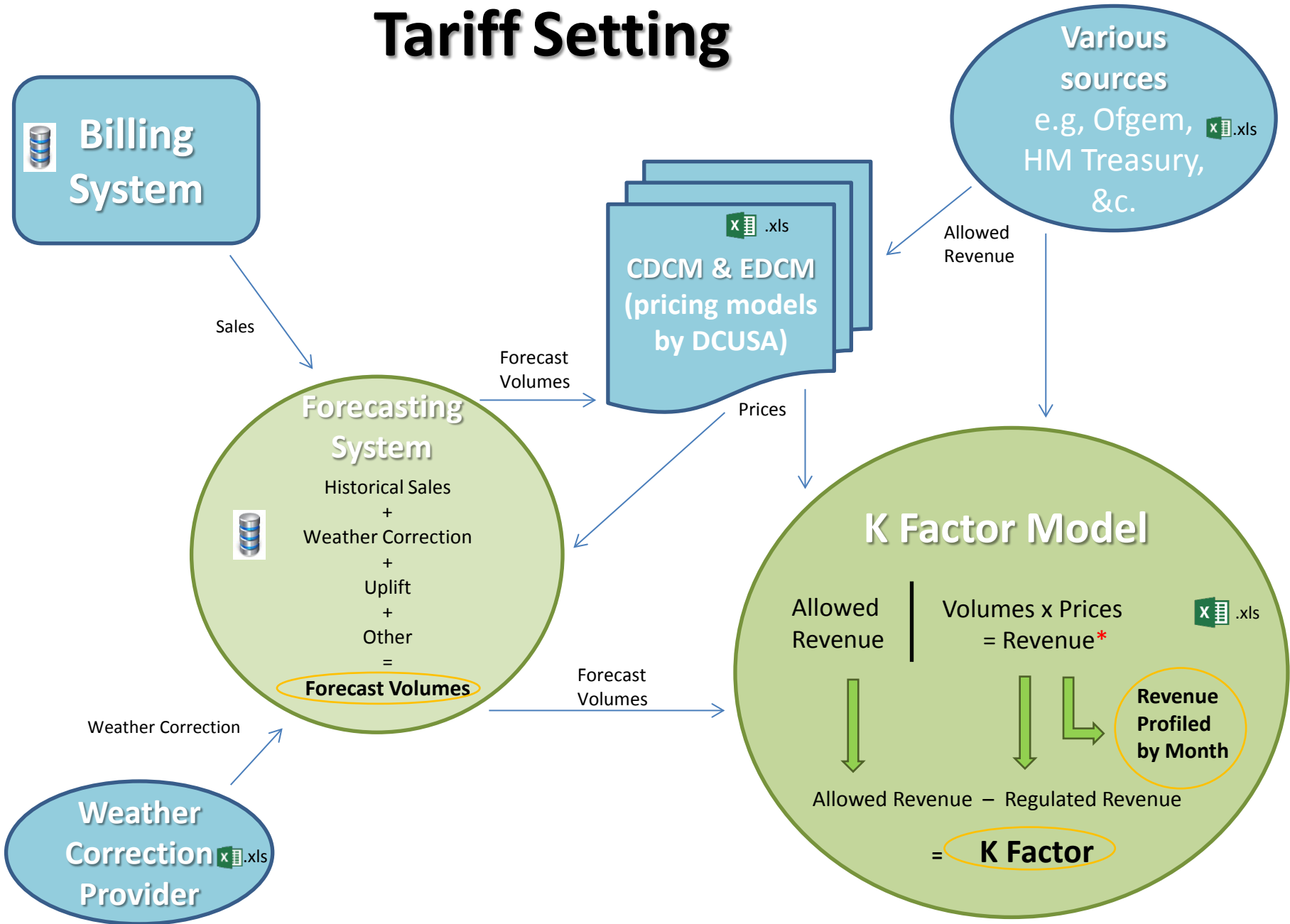
# Charging Methodologies Governance

- Common national DUoS charging methodologies
- Governance is via DCUSA
  - Distribution Connection and Use of System Agreement (DCUSA)
  - An industry code
  - DNO Licence obligation to comply with it
  - DUoS charging methodologies are in DCUSA
- DCUSA parties can suggest change proposals

# Tariff setting & forecasts

- Setting tariffs for the *Apr19-Mar20* regulatory year in Nov/Dec17 requires a forecast or reforecast of volumes for...
  - *Nov17-Mar18*      Remainder of current reg year
  - *Apr18-Mar19*      Reg year +1
  - *Apr19-Mar20*      Reg year +2

# Tariff Setting



# HV Connected and below

- Uses CDCM – Common Distribution Charging Methodology
- CDCM Uses Average Charging Approach
- Specific Charges Are
  - Fixed Charge
  - Unit Rates
    - Single Unit Rate
    - Dual Unit Rate (Day and Night)
    - Red Amber Green
  - Capacity Charge
  - Reactive Power Charge
  - Excess Capacity Charge
  - Generators Have Credits – Unit Rates

# Simple way of thinking about the CDCM model...

## Allowed Revenue (£)

Input data for WPO South West in April 18 (Final)	Value	Contribution
Base Demand Revenue before inflation	239,360,309	
Annual for inflation adjustment before inflation	1,749,027	
1% Year on year inflation	1,996,432	
Price index adjustment (RPI index)	1	
<b>Base Demand Revenue</b>		<b>379,899,243</b>
Pass-through Licenced Fees	1,53,000	
Pass-through Revenue Water	79,643	
Pass-through Transmission Customers Price Changes	1,197,590	
Pass-through Smart Meter Communication Licence Costs	200,792	
Pass-through Smart Meter II Costs	1,338,290	
Pass-through Ring Fence Costs	26,332	
<b>Allow 4 Pass-through Items</b>		<b>1,876,158</b>
Shortfall of Revenue of Customer Service Incentive	6,673,892	
Quality of Service Incentive	5,364,074	
Customer Engagement Incentive	1,232,778	
Energy Contract Incentive	1,422,441	
Low Carbon Network Fund - Part 1 unrecoutable	252,389	
Low Carbon Network Fund - Part 2 & Unrecoutable Funding		12,284,838
Revenue Incentive and Other Adjustments	1,432,737	
<b>Total allowed Revenue</b>		<b>341,563,521</b>
Total other revenue recognised by the Service Charges		341,563,521
<b>Total Revenue for Use of System Charges</b>		<b>6,830,317</b>
Revenue earned outside CDCM - EDCM and Certain Interconnector Revenue		6,830,317
<b>Total Revenue to be raised outside the CDCM</b>		<b>6,830,317</b>
Latest Incentive of CDCM Revenue		379,899,243

## TARIFFS

(pence per unit, &c)

## Forecast volumes (GWh)

	Base Loads	Peak 2 weeks	Peak 3 weeks	Peak	Estimated	Revenue
	(GWh)	(GWh)	(GWh)	(GWh)	(GWh)	(£M)
Domestic Residential	4,339,251.82			1,051.03		
Domestic Day Rate	1,051.03			1,051.03		
Domestic (Net Peak) Industrial (MIP) (M)	65,973.58			8,322		
Total Non-Residential Residential	172,025.70			86,493		
Small Non-Residential Tax Payers	149,476.04			25,542		
Small Non-Residential (Net Peak) Industrial (MIP) (M)	22,549.66			6,051		
1.0 Medium Non-Residential	1,000			0		
1.5 Peak Medium Non-Residential	1,000			0		
1.0 Medium Non-Residential	1,000			0		
1.5 Non-Residential	1,000			0		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	20,203.79			8,191		
1.5 Non-Residential	20,203.79			8,191		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	40,407.58			16,382		
1.5 Non-Residential	40,407.58			16,382		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	80,815.16			32,764		
1.5 Non-Residential	80,815.16			32,764		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	161,630.32			65,528		
1.5 Non-Residential	161,630.32			65,528		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	323,260.64			131,056		
1.5 Non-Residential	323,260.64			131,056		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	646,521.28			262,112		
1.5 Non-Residential	646,521.28			262,112		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	1,293,042.56			524,224		
1.5 Non-Residential	1,293,042.56			524,224		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	2,586,085.12			1,048,448		
1.5 Non-Residential	2,586,085.12			1,048,448		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	5,172,170.24			2,096,896		
1.5 Non-Residential	5,172,170.24			2,096,896		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	10,344,340.48			4,193,792		
1.5 Non-Residential	10,344,340.48			4,193,792		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	20,688,680.96			8,387,584		
1.5 Non-Residential	20,688,680.96			8,387,584		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	41,377,361.92			16,775,168		
1.5 Non-Residential	41,377,361.92			16,775,168		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	82,754,723.84			33,550,336		
1.5 Non-Residential	82,754,723.84			33,550,336		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	165,509,447.68			67,100,672		
1.5 Non-Residential	165,509,447.68			67,100,672		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	331,018,895.36			134,201,344		
1.5 Non-Residential	331,018,895.36			134,201,344		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	662,037,790.72			268,402,688		
1.5 Non-Residential	662,037,790.72			268,402,688		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	1,324,075,581.44			536,805,376		
1.5 Non-Residential	1,324,075,581.44			536,805,376		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	2,648,151,162.88			1,073,610,752		
1.5 Non-Residential	2,648,151,162.88			1,073,610,752		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	5,296,302,325.76			2,147,221,504		
1.5 Non-Residential	5,296,302,325.76			2,147,221,504		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	10,592,604,651.52			4,294,443,008		
1.5 Non-Residential	10,592,604,651.52			4,294,443,008		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	21,185,209,303.04			8,588,886,016		
1.5 Non-Residential	21,185,209,303.04			8,588,886,016		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	42,370,418,606.08			17,177,772,032		
1.5 Non-Residential	42,370,418,606.08			17,177,772,032		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	84,740,837,212.16			34,355,544,064		
1.5 Non-Residential	84,740,837,212.16			34,355,544,064		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	169,481,674,424.32			68,711,088,128		
1.5 Non-Residential	169,481,674,424.32			68,711,088,128		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	338,963,348,848.64			137,422,176,256		
1.5 Non-Residential	338,963,348,848.64			137,422,176,256		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	677,926,697,697.28			274,844,352,512		
1.5 Non-Residential	677,926,697,697.28			274,844,352,512		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	1,355,853,395,394.56			549,688,705,024		
1.5 Non-Residential	1,355,853,395,394.56			549,688,705,024		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	2,711,706,790,789.12			1,099,377,410,048		
1.5 Non-Residential	2,711,706,790,789.12			1,099,377,410,048		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	5,423,413,581,578.24			2,198,754,820,096		
1.5 Non-Residential	5,423,413,581,578.24			2,198,754,820,096		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	10,846,827,163,156.48			4,397,509,640,192		
1.5 Non-Residential	10,846,827,163,156.48			4,397,509,640,192		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	21,693,654,326,312.96			8,795,019,280,384		
1.5 Non-Residential	21,693,654,326,312.96			8,795,019,280,384		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	43,387,308,652,625.92			17,590,038,560,768		
1.5 Non-Residential	43,387,308,652,625.92			17,590,038,560,768		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	86,774,617,305,251.84			35,180,077,121,536		
1.5 Non-Residential	86,774,617,305,251.84			35,180,077,121,536		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	173,549,234,610,503.68			70,360,154,243,072		
1.5 Non-Residential	173,549,234,610,503.68			70,360,154,243,072		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	347,098,469,221,007.36			140,720,308,486,144		
1.5 Non-Residential	347,098,469,221,007.36			140,720,308,486,144		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	694,196,938,442,014.72			281,440,616,972,288		
1.5 Non-Residential	694,196,938,442,014.72			281,440,616,972,288		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	1,388,393,876,884,029.44			562,881,233,944,576		
1.5 Non-Residential	1,388,393,876,884,029.44			562,881,233,944,576		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	2,776,787,753,768,058.88			1,125,762,467,889,152		
1.5 Non-Residential	2,776,787,753,768,058.88			1,125,762,467,889,152		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	5,553,575,507,536,117.76			2,251,524,935,778,304		
1.5 Non-Residential	5,553,575,507,536,117.76			2,251,524,935,778,304		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	11,107,151,015,072,235.52			4,503,049,871,556,608		
1.5 Non-Residential	11,107,151,015,072,235.52			4,503,049,871,556,608		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	22,214,302,030,144,471.04			9,006,099,743,113,216		
1.5 Non-Residential	22,214,302,030,144,471.04			9,006,099,743,113,216		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	44,428,604,060,288,942.08			18,012,199,486,226,432		
1.5 Non-Residential	44,428,604,060,288,942.08			18,012,199,486,226,432		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	88,857,208,120,577,884.16			36,024,398,972,452,864		
1.5 Non-Residential	88,857,208,120,577,884.16			36,024,398,972,452,864		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	177,714,416,241,155,768.32			72,048,797,944,905,728		
1.5 Non-Residential	177,714,416,241,155,768.32			72,048,797,944,905,728		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	355,428,832,482,311,536.64			144,097,595,889,811,456		
1.5 Non-Residential	355,428,832,482,311,536.64			144,097,595,889,811,456		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	710,857,664,964,623,073.28			288,195,191,779,622,912		
1.5 Non-Residential	710,857,664,964,623,073.28			288,195,191,779,622,912		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	1,421,715,329,929,246,146.56			576,390,383,559,245,824		
1.5 Non-Residential	1,421,715,329,929,246,146.56			576,390,383,559,245,824		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	2,843,430,659,858,492,293.12			1,152,780,767,118,491,648		
1.5 Non-Residential	2,843,430,659,858,492,293.12			1,152,780,767,118,491,648		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	5,686,861,319,716,984,586.24			2,305,561,534,236,983,296		
1.5 Non-Residential	5,686,861,319,716,984,586.24			2,305,561,534,236,983,296		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	11,373,722,639,433,973,172.48			4,611,123,068,473,966,592		
1.5 Non-Residential	11,373,722,639,433,973,172.48			4,611,123,068,473,966,592		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	22,747,445,278,867,946,344.96			9,222,246,136,947,933,184		
1.5 Non-Residential	22,747,445,278,867,946,344.96			9,222,246,136,947,933,184		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	45,494,890,557,735,892,689.92			18,444,492,273,895,866,368		
1.5 Non-Residential	45,494,890,557,735,892,689.92			18,444,492,273,895,866,368		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	90,989,781,115,471,785,379.84			36,888,984,547,791,732,736		
1.5 Non-Residential	90,989,781,115,471,785,379.84			36,888,984,547,791,732,736		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	181,979,562,230,943,570,759.68			73,777,969,095,583,465,472		
1.5 Non-Residential	181,979,562,230,943,570,759.68			73,777,969,095,583,465,472		
1.5 Non-Residential (Net Peak) Industrial (MIP) (M) CT	363,959,124,461,887,141,519.36			147,555,		

# EHV Connected

- Sites Connected At The HV Substation And Above
- Uses EDCM Charging Methodology
- Locational Charges
- Price Depends On
  - Where Site Is Connected
  - Asset Usage
  - Voltage Level Of Connection
- Super Red Charge (Credit For Non Intermittent Generators)
- Fixed Charge (O&M On The Sole Use Assets)
- Capacity Charge (Using NUFs)

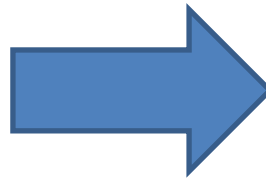


# Simple way of thinking about the EDCM model...

## Inputs

Customer data,  
engineering data,  
&c, &c, &c

Total revenue to be  
recovered  
(Allowed Revenue  
from CDCM £)



## Outputs

**REVENUE AMOUNT**  
(Amount of Allowed  
Revenue to be  
recovered from EHV  
customers)

**PRICES**  
(Tariffs required to  
recover the above  
Revenue amount from  
EHV customers)

# 2019/20 Charges

Allowed Revenue	South West	South Wales	Mid West	Mid East
Base Revenue	£351.8	£247.6	£485.5	£488.0
Pass through cost items	-£0.7	-£7.6	-£4.9	-£8.0
Losses	£0.0	£0.0	£0.0	£0.0
Broad measure	£4.1	£3.0	£5.6	£5.7
Quality of supply	£1.4	£3.0	£22.7	£22.0
Time to connect	£1.3	£0.8	£1.8	£1.8
NIA	£1.1	£0.8	£1.6	£1.5
Low Carbon network	£0.2	£0.1	£0.3	£0.3
Less over Recovery at end of 2017/18	-£7.1	£8.1	£2.2	£3.4
Gives total revenue target of	£352.1	£255.8	£514.8	£514.7
Overall Price Change	1.6%	3.7%	2.4%	5.0%

# Recent Changes - CDCM

- DCP228 – Scaling
  - Implemented for April 18
  - Previously Most Of The Scaling Applied To The Unit Rate 1
  - From April 18 the scaling is being spread across all Unit Rates
- DCP161 – Excess Capacity Charges
  - Implemented for April 18
  - Previously the excess capacity charge and the capacity charge were at the same rate
  - From April 18 the excess capacity charges will be at a higher rate than the capacity charges
  - The reason for the difference is that the excess capacity charges will not include a reduction for customer contributions
- DCP179/ P272 – Movement Of LV/ LV Sub and HV Medium To Half Hourly
  - Most of the movement complete
  - Chargeable Capacities for all sites moving to LV/ LV Sub and HV Half Hourly
- DCP248 – 12 Months Grace Changing Capacity
  - Customers moving from Non Half hourly to Half hourly able to change capacity within 12 months of moving if Chargeable Capacity set to wrong level

# Future Changes – CDCM/ EDCM

- DCP268 Move to Half Hourly tariffs and red, amber green
  - Change proposal went to OFGEM
  - OFGEM returned it to DCUSA group
    - To look at the implementation date
    - To further analyse the intermittent generation
- DCP313 - Eligibility Criteria for EDCM Generation Credits

# Treatment Of Storage

- Electricity storage, including battery storage, fall within the definition of non-intermittent generation
- Storage sites
  - Will be eligible for CDCM credits
  - Could be Eligible for EDCM super-red credit should a charge 1 exist for a particular EDCM location
- Battery storage is a relatively new technology, so in the future, the precise nature of it will be reviewed to determine if the treatment of storage as non-intermittent generation remains appropriate.

# Charging Futures Forum

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- Ofgem has set up a new structure to facilitate co-ordination of changes to charging arrangements, called the Charging Futures Forum (CFF). The CFF has the aim of bringing together the various ongoing and emerging electricity network charging reviews into a joined-up work programme.
- More information on the CFF (including papers) can be found at [chargingfutures.com](http://chargingfutures.com)

# Distribution Charging Overview Document

- WPD has recently published a short document providing an overview of Distribution Charging.
- The aims of the document is to provide
  - a background to charges
  - some tips for customers on how to reduce their bill
  - some background on potential future changes
  - and how an EDCM generator might estimate its bill

# Distribution Charging Overview Document

- Background to charges
  - Types Customers covered by the CDCM
  - Types Customers covered by the EDCM
  - Governance procedures and changes
  - How customers are charged
  - Final bill % from DNO charges



# Distribution Charging Overview Document

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- Some tips for customers on how to reduce their bill
  - Reducing Consumption – specifically in peak periods
  - Ensure capacity requirements are correct

# Distribution Charging Overview Document

- Some background on potential future changes
  - Electricity sector is undergoing significant changes
    - Smaller more local generation
    - Electrification of transport
    - Rollout of smart meters
  - Ofgem developed the idea of Charging Futures Forum
    - Better facilitate co-ordination of network charging developments
- How an EDCM generator might estimate its bill
  - Calculation of export MPAN and import MPAN charges

# DCUSA Cost Information

- Known as DCP66A Supplier Forecasts – Schedule 15 In DCUSA
- WPD publish table of estimated future allowed revenue on DCUSA Website
- Supplied Quarterly
- Table 1 – Breakdown of future allowed revenue
- Table 2 – Shows some confidence limits for the next 2 years
- Table 3 – Shows illustrative prices for the future years
- DCP66A Supplier Teleconference held
  - All DNOs present
  - WPD Chair

# Charging Information Published By WPD

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- LC14 Charging Statements
- Schedule of charges
- Schedule Of Losses
- Miscellaneous Charging Statements
- MAP Charges
- MPAS Charges
- Data Services

# Supplier Of Last Resort Claim

- Ofgem appointed Co-Operative Energy Ltd as the Supplier of Last Resort to the gas and electricity customers of GB Energy Supply Ltd after the latter ceased trading
- Co-Operative Energy Ltd submitted a claim for Last Resort Supply Payment which was granted
- The amount claimed for is £14.04m of which £7.72 to be paid by electricity distribution licensees
- DNOs have to raise this money in 2018/19
- DNOs sought a joint derogation to increase Domestic fixed charges by 0.08p/Mpan/ day
- If there are residual monies to be raised or DNOs have over collected, 2019/20 charges could be changed
- DNOs are trying to change the license to make SOLR claims pass through with a two year lag to prevent changes to prices made at short notice
- Note: The £14.04m is subject to the GB Energy administration process