



# IMPACT OF COMMON DISTRIBUTION CHARGING METHODOLOGY

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Stakeholder Workshop

3 September 2009

# Agenda

- Objectives
- Background
- High Level Summary
- Tariff Impact Analysis
- Next Steps
- Other Charging Related Issues

# Objectives for today

- Overview of the CDCM
- Summary of major changes of CDCM
- Summary of tariff impact analysis of CDCM
- Share information on other proposed charging changes
- Share comparison with other DNOs' average charges

# Background and timeline

- New price control in April 2005 with common connection boundary and new generation charges
- Structure of charges work under the whole industry groups
- Ofgem issues proposal for Common Methodology in July 2008
- In October 2008 Ofgem details Common Methodology (500MW model for HV/LV and LRIC for EHV customers)
- Ofgem issues Collective Licence Modification (CLM)
- DNOs form the ENA working group in October 2008
- CLM blocked in October 2008, due to some companies' issues about choice of EHV methodology



# Background and timeline (2)

- DNOs continue the project for HV/LV only
- Ofgem decision document on next steps March 2009 (Common methodology for HV/LV by April 2010 and EHV enduring methodologies by April 2011)
- CLM for HV/LV introduced in June 2009
- DNOs issue consultation in June/July 2009 on CDCM
- June/July consultation includes illustrative charges – based on 2009/10 target revenue
- Submitted CDCM to Ofgem on 25 August 2009

# A Common Distribution Charging Methodology

- **Common Model**
  - Common cost allocation methodology
  - Network and Service models
- **Common Tariff List and Tariff Structures**
  - Demand and generation tariffs and
  - Matching LDNO tariffs
- **Common Application Methodology**
  - Capacity and excess reactive power calculations
- **Populated model available at [www.enwLtd.co.uk](http://www.enwLtd.co.uk)**

# Summary of methodology changes from current model to CDCM

	Current Model	CDCM
Allowed revenue	Separate demand and generation allowed revenue totals	Single allowed revenue total
Network/Service Models and costs	Specific models and costs	Common models and common costing approach
Operating Expenditure	Whole cost	Marginal cost
Cost allocation (1)	Coincidence and load factors applied for both NHH and HH	NHH: No change HH: Peaking probabilities combined coincidence and load factors
Cost allocation (2)	Fixed charges from asset and opex cost of service model and billing costs	Fixed charges from opex on service models and allocation from voltage of connection
Connection boundary	No connection boundary assumed	Deemed customer contribution percentages applied
Revenue matching	Multiplier applied to units only	Fixed adder (£/kW) applied at GSP level
Reactive power	With reference to the customer's power factor	With reference to the higher voltage network's power factor

# Common tariff list – NHH Demand

**Table 4: Non-half-hourly metered demand tariffs**

Point of Connection	Profile Class	Unit Rate Time Bands	Other Charges	Tariff Name
LV	1	One	Fixed	Domestic Unrestricted
LV	2	Two	Fixed	Domestic Two Rate
LV	2	One	None	Domestic Off-Peak (related MPAN)
LV	3	One	Fixed	Small Non-Domestic Unrestricted
LV	4	Two	Fixed	Small Non-Domestic Two Rate
LV	4	One	None	Small Non-Domestic Off-Peak (related MPAN)
LV	5 to 8	Two	Fixed	LV Medium Non-Domestic

# Common tariff list – NHH Demand (2)

**Table 4: Non-half-hourly metered demand tariffs**

Point of Connection	Profile Class	Unit Rate Time Bands	Other Charges	Tariff Name
LVS	5 to 8	Two	Fixed	LV Sub Non-Domestic
HV	5 to 8	Two	Fixed	HV Medium Non-Domestic *The proposal is that this tariff will be closed to new customers and all new HV connections will be required to be half-hourly metered
LV	1 & 8	One	None	NHH UMS (Unmetered supplies)

# Common tariff list – NHH Generation

**Table 6: Non-half-hourly metered generation tariffs**

Point of connection	Profile class	Unit Rate Time Bands	Other Charges	Tariff Name
LV	8	One	Fixed	LV Generation NHH
LVS				LV Sub Generation NHH

# Common tariff list – HH Demand

**Table 5: Half-hourly metered demand tariffs**

Point Of Connection	Unit Rate Time Bands	Other Charges	Tariff Name
LV	Three	Fixed, Capacity and Reactive Power	LV HH metered
LVS	Three		LV Sub HH metered
HV	Three		HV HH metered
HVS	Three		HV Sub HH metered
LV	Three	None	LV UMS (Pseudo HH Metered)

# Common tariff list – HH Generation

**Table 7: Half-hourly metered generation tariffs**

Point Of Connection	Unit Rate Time bands	Other Charges	Tariff Name
LV	One	Fixed and Reactive Power	LV Generation Intermittent
LVS			LV Sub Generation Intermittent

# Common tariff list – HH Generation (2)

**Table 7: Half-hourly metered generation tariffs**

Point Of Connection	Unit Rate Time bands	Other Charges	Tariff Name
LV	Three	Fixed and Reactive Power	LV Generation Non-Intermittent
LVS			LV Sub Generation Non-Intermittent
HV	One		HV Generation Intermittent
HVS			HV Sub Generation Intermittent
HV	Three		HV Generation Non-Intermittent
HVS			HV Sub Generation Non-Intermittent

# Common tariff list – LDNO tariffs

- Matching set of LDNO tariffs
- Same tariff structures as ‘All the Way’ tariffs
- One set of tariffs for each boundary connection voltage
- Tariffs applied to each LDNO’s aggregated portfolio of MPANs
- Tariffs only applicable to LDNO settled MPANs

# Summary of tariff impacts for ENW

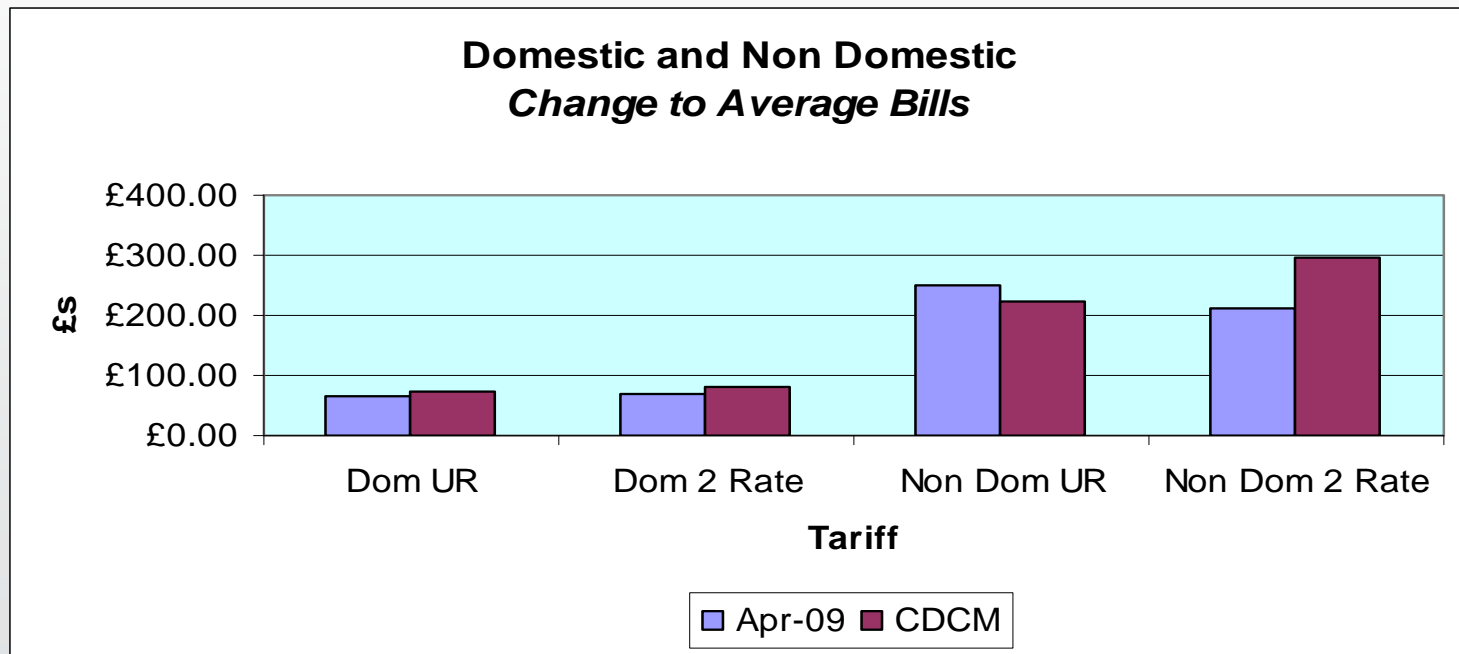
## Tariff

- PC 5-8 customers move to Supercustomer billing
- New generation tariffs with unit and fixed components
- New LDNO tariffs
- Unit charges generally increase
- Fixed charges and capacity charges reduce

## Average Bills

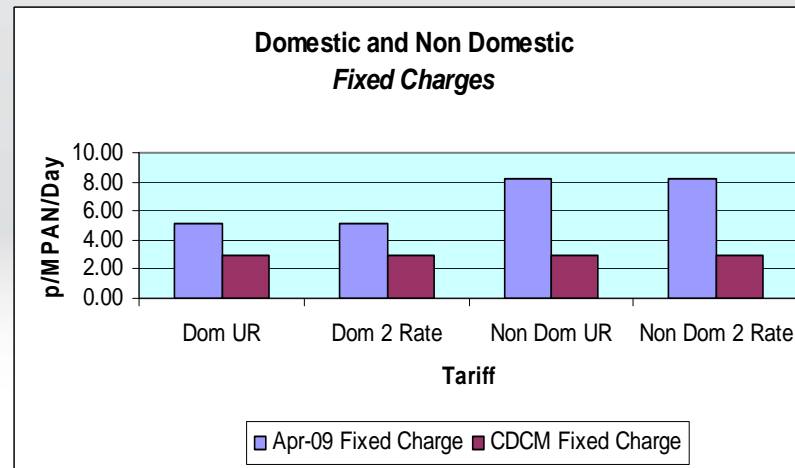
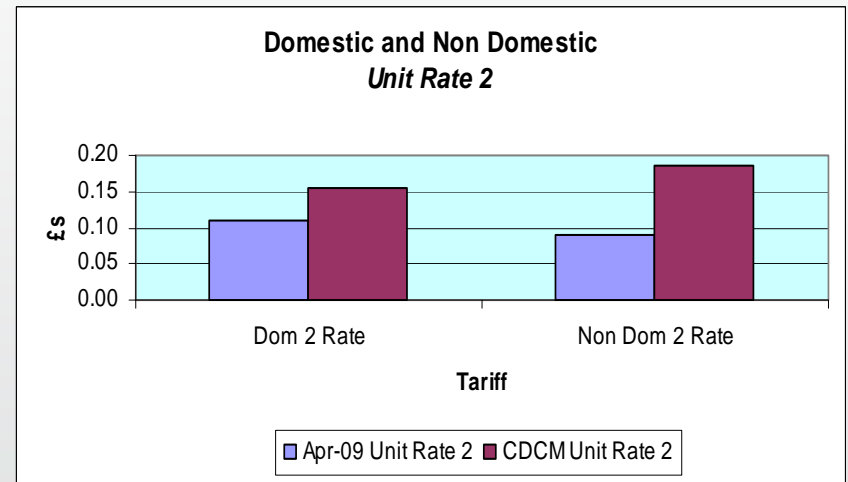
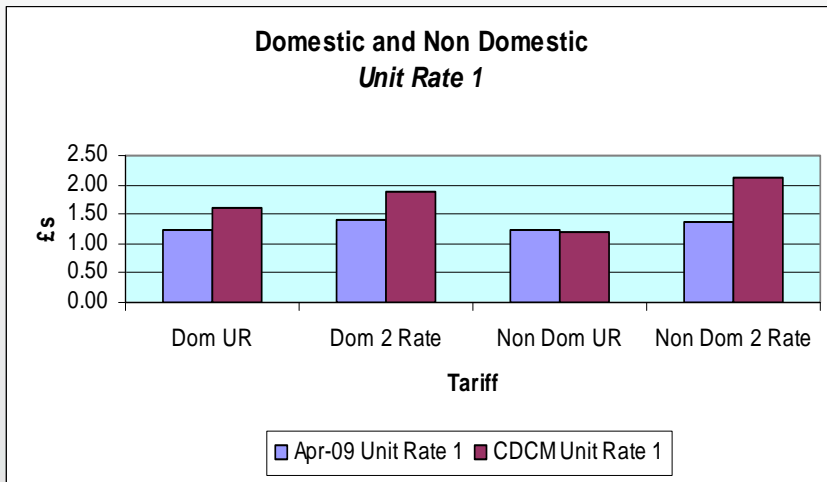
- Increase in average bills for domestic customers
- Decrease in average bills for commercial customers
- Generation charges likely to be negative
- Move to 20%/80% in fixed and variable revenues

# Change to Domestic and Non Domestic Average Bills

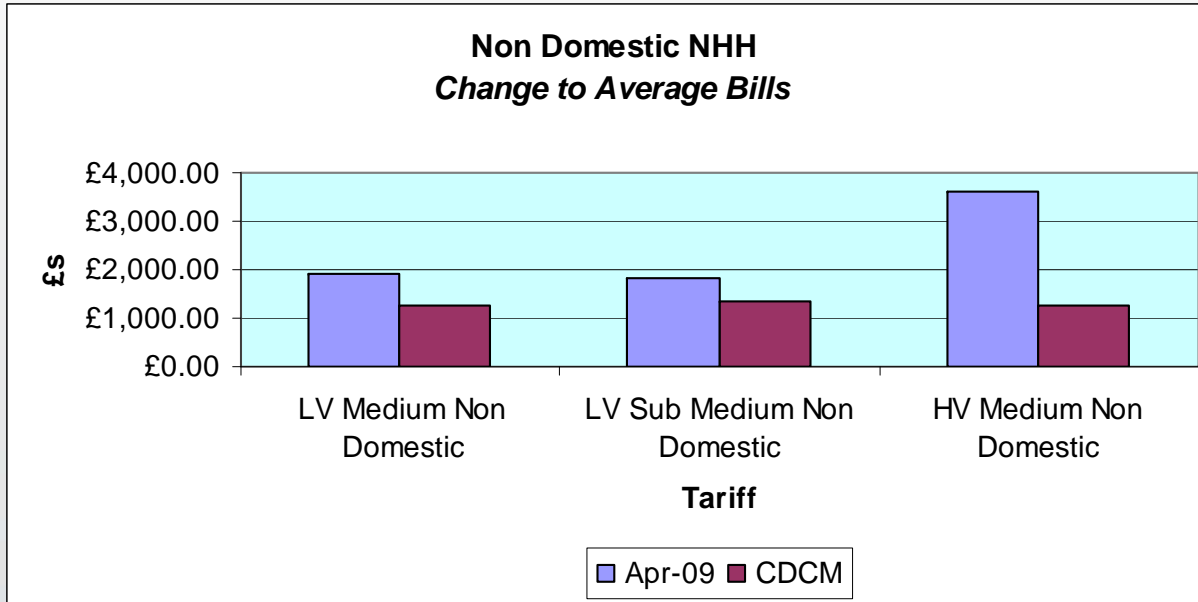


<i>Tariff</i>	<b>Average Bill Apr-09</b>	<b>Average Bill CDCM</b>	<b>% Change</b>
Domestic Unrestricted	£66.95	£73.30	9.49%
Domestic Two Rate	£70.33	£79.44	12.96%
Non Domestic Unrestricted	£248.36	£222.42	-10.44%
Non Domestic Two Rate	£213.24	£294.81	38.26%

# Domestic and Non Domestic Tariff Components

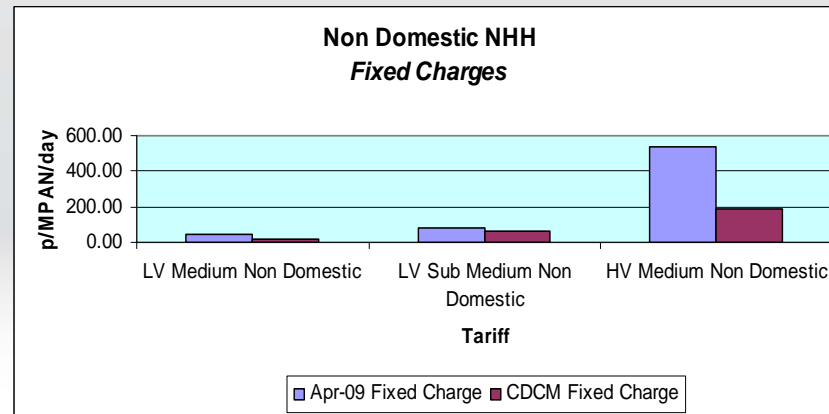
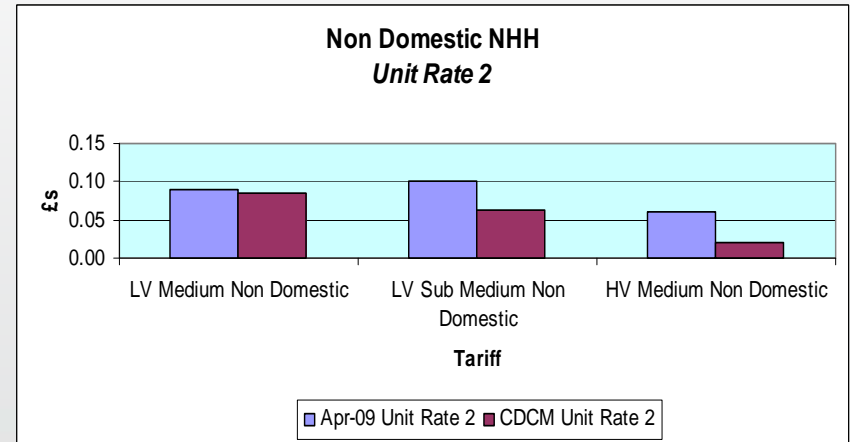
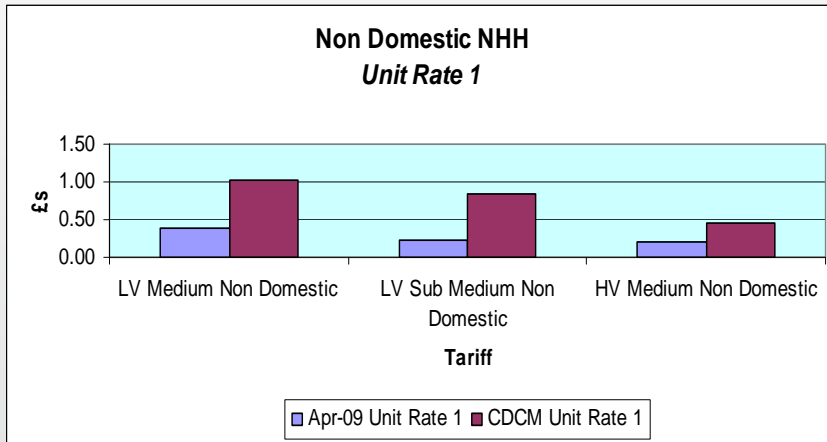


# Change to Non Domestic NHH Average Bills

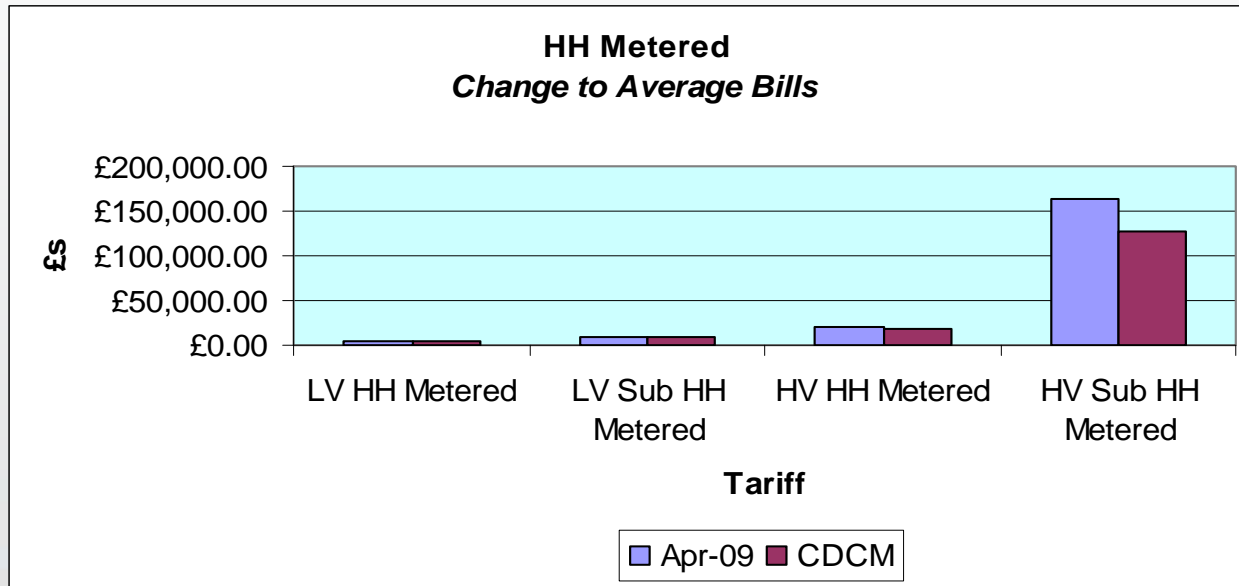


<i>Tariff</i>	<b>Average Bill Apr-09</b>	<b>Average Bill CDCM</b>	<b>% Change</b>
LV Medium Non Domestic	£1,903.76	£1,254.21	-34.12%
LV Sub Medium Non Domestic	£1,816.41	£1,328.66	-26.85%
HV Medium Non Domestic	£3,603.12	£1,271.70	-64.71%

# Non Domestic NHH Tariff Components



# Change to HH Demand Average Bills



<i>Tariff</i>	<b>Average Bill Apr-09</b>	<b>Average Bill CDCM</b>	<b>% Change</b>
LV HH Metered	£4,748.65	£4,026.89	-15.20%
LV Sub HH Metered	£8,107.99	£8,054.80	-0.66%
HV HH Metered	£19,401.46	£17,405.92	-10.29%
HV Sub HH Metered	£164,300.02	£128,374.73	-21.87%

# HH Metered Tariff Components

<i>Unit Comparison</i>	Unit rate 1 p/kWh	Unit rate 1 p/kWh	Unit rate 2 p/kWh	Unit rate 2 p/kWh	Unit rate 3 p/kWh	Unit rate 3 p/kWh
	Apr-09	CDCM	Apr-09	CDCM	Apr-09	CDCM
LV HH Metered	0.380	5.523	0.090	0.357	N/A	0.052
LV Sub HH Metered	0.220	6.927	0.100	0.378	N/A	0.054
HV HH Metered	0.200	5.118	0.060	0.197	N/A	0.027
HV Sub HH Metered	0.250	3.247	0.050	0.115	N/A	0.015

<i>Tariff</i>	Fixed Charge p/day Apr-09	Fixed Charge p/day CDCM	% Change
LV HH Metered	81.53	9.67	-88.14%
LV Sub HH Metered	81.86	34.59	-57.74%
HV HH Metered	538.06	83.94	-84.40%
HV Sub HH Metered	947.71	95.74	-89.90%

# Unmetered Tariffs

<b>Proposed</b>	<b>Unit Rate 1</b> p/kWh	<b>Unit Rate 2</b> p/kWh	<b>Unit Rate 3</b> p/kWh
NHH Unmetered	2.591	-	-
LV Unmetered (Pseudo HH Metered)	14.912	2.546	1.695

<b>Current</b>	<b>Unit Rate 1</b> p/kWh	<b>Unit Rate 2</b> p/kWh	<b>Fixed Charge</b> p/MPAN/month	<b>Demand Charge</b> £/kW/month
Unmetered Without Demand Charge	1.33	0.09	834	
Unmetered - Scale 1			834	5.49
Unmetered - Scale 2			834	7.27
Unmetered - Scale 3			834	8.44

# Generation Tariffs

<b>Proposed</b>	<b>Unit Rate 1</b> p/kWh	<b>Unit Rate 2</b> p/kWh	<b>Unit Rate 3</b> p/kWh	<b>Fixed Charge</b> p/MPAN/day
LV Generation NHH	( 0.759)	.	.	.
LV Generation Intermittent	( 0.759)	.	.	.
LV Generation Non-Intermittent	( 8.511)	( 0.630)	( 0.093)	.
LV Sub Generation Intermittent	( 0.594)	.	.	.
LV Sub Generation Non-Intermittent	( 6.877)	( 0.462)	( 0.067)	.
HV Generation Intermittent	( 0.370)	.	.	5.39
HV Generation Non-Intermittent	( 4.683)	( 0.230)	( 0.032)	5.39
HV Sub Generation Non-Intermittent	( 3.306)	( 0.128)	( 0.017)	5.39
HV Sub Generation Intermittent	( 0.247)	.	.	5.39

<b>Current</b>	<b>CONNECTION VOLTAGE</b>		
	<b>EHV</b>	<b>HV or LV</b>	<b>LV - SSEG</b>
<b>GENERATION CHARGE</b> (£ per annum per kW of Installed Generation Capacity)	Range: £2.87 to £22.94 Average: £4.69	£4.69 £2.87	£0

# Areas of risk for implementation

- Expect to implement all system and process changes to deliver CDCM by 1 April 2010

Except:

- In the month 'Exceeded capacity' charge
  - Move to p/MPAN/day and p/kVA/day for HH
  - Move away from MAP charging using LLFs
  - Portfolio billing for LDNO tariff
- Expect to deliver changes in 2010/11

# Next steps....

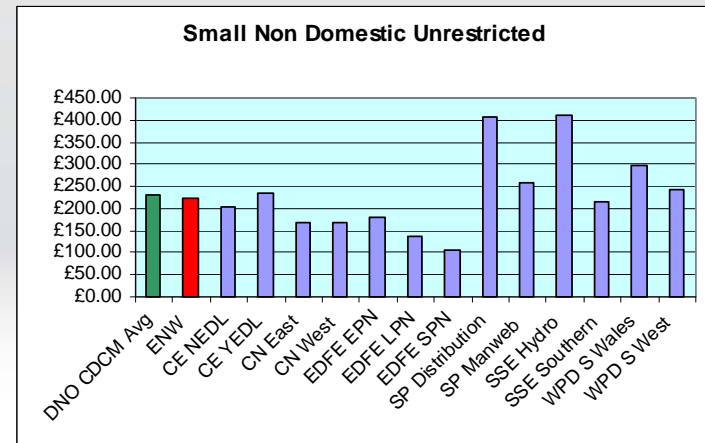
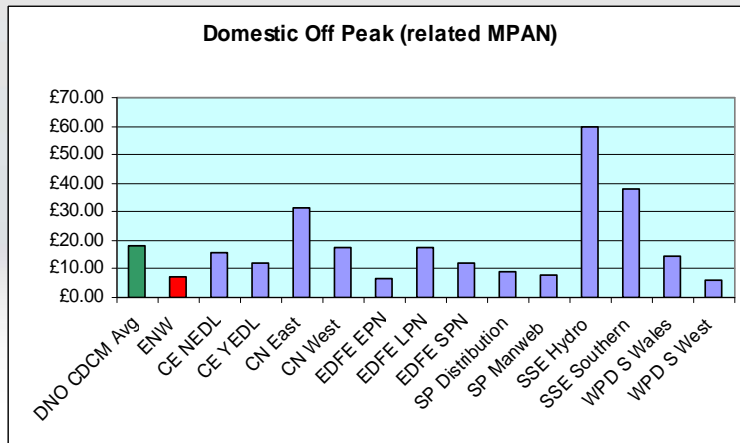
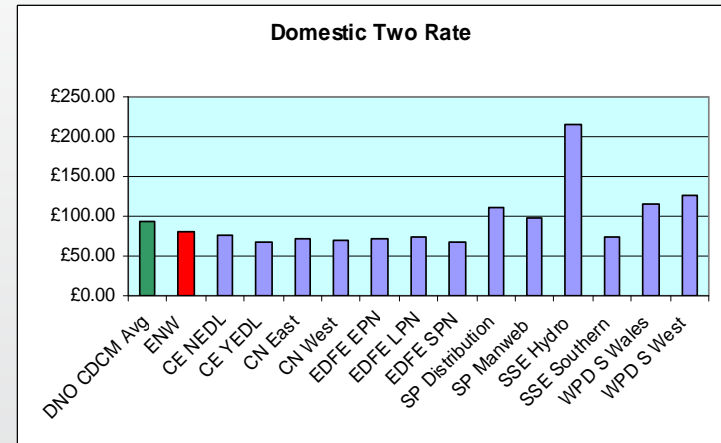
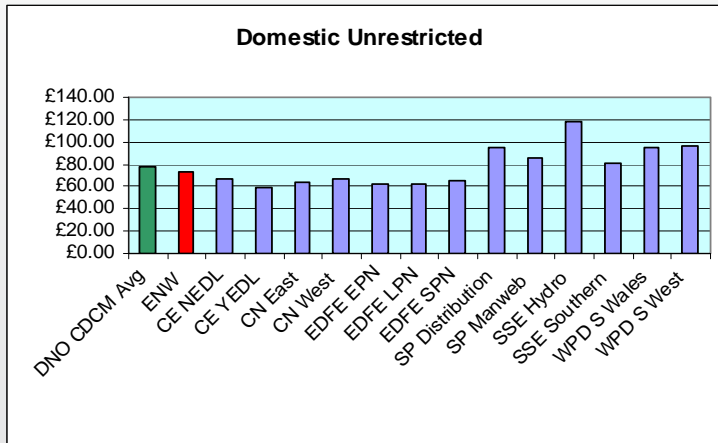
- Ofgem consults on CDCM in September/October
- Ofgem issues approval notice in November/December
- Inputs revision and error checking in September to December
- Decision on pre-2005 generation in autumn
- Publish indicative prices by 31 December 2009
- Publish final prices by 20 February 2010
- CDCM and tariffs implemented on 1 April 2010

# Other charging changes - EHV

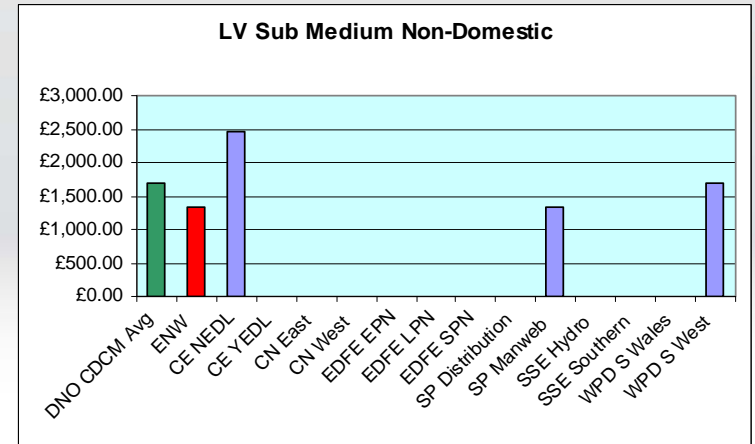
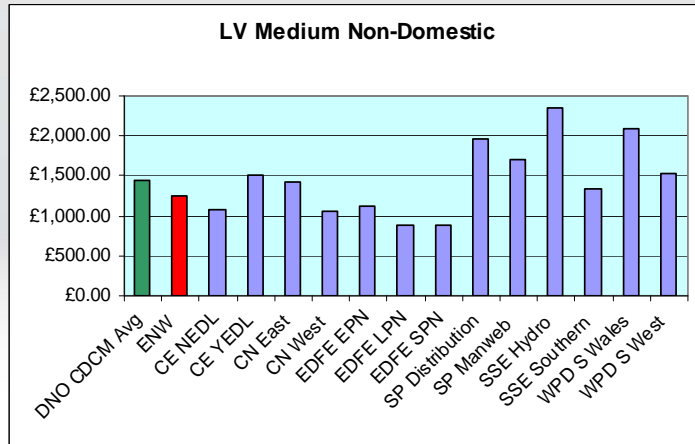
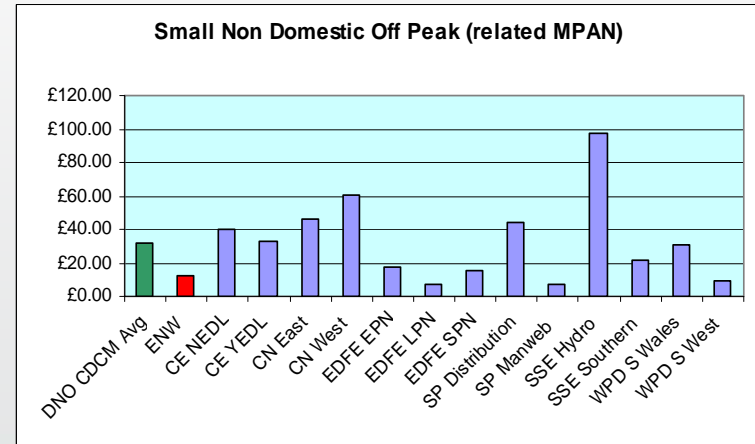
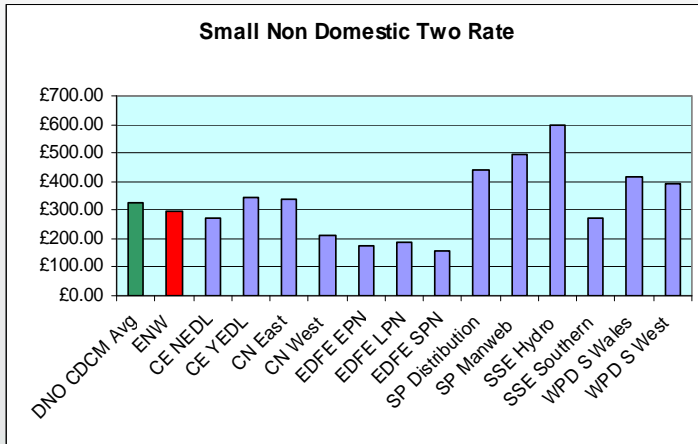
- Interim EHV Charging Methodology Modification Proposal submitted on 1 September 2009 (available on website at [www.enwLtd.co.uk](http://www.enwLtd.co.uk))
- Modification proposes 'minimum methodological change'
- Result from EHV collective licence modification due early September 2009
- ENW and others start work on EDCM specification
- Interim EHV charging methodologies implemented on 1 April 2010



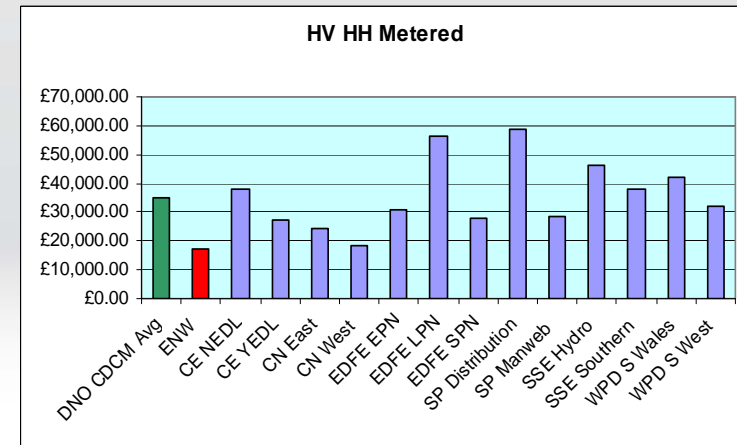
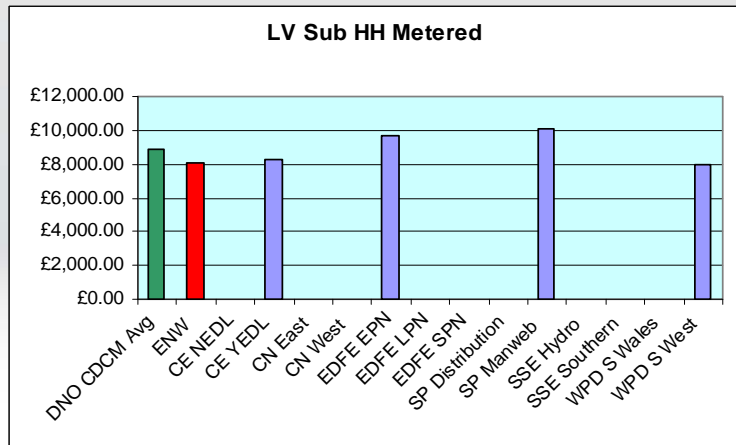
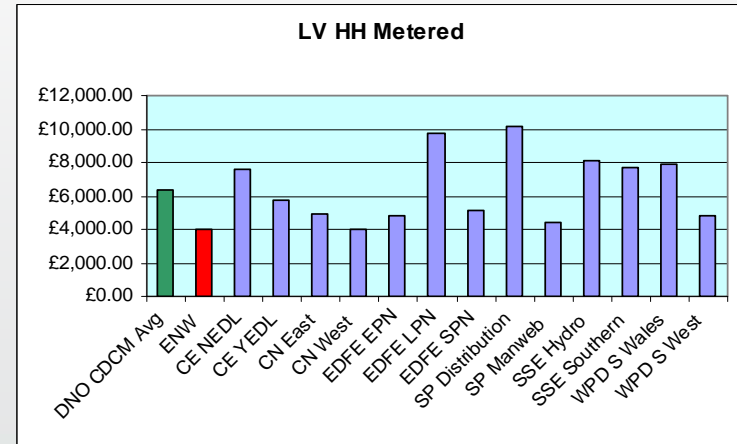
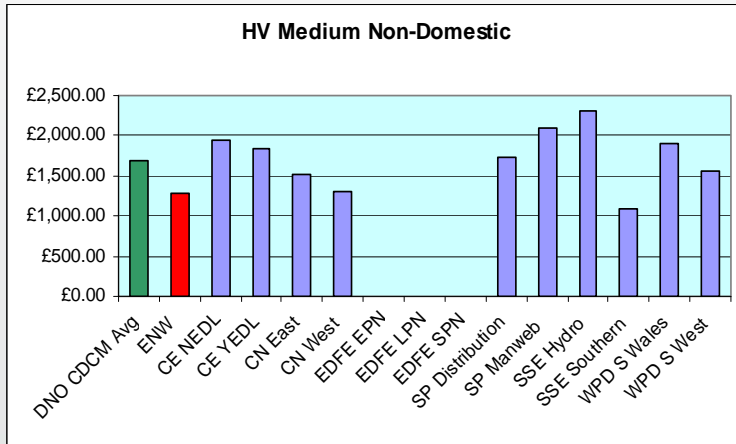
# Average bill comparisons



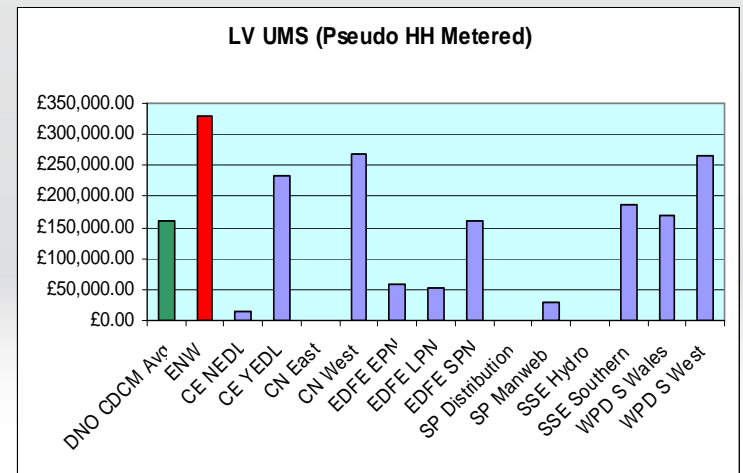
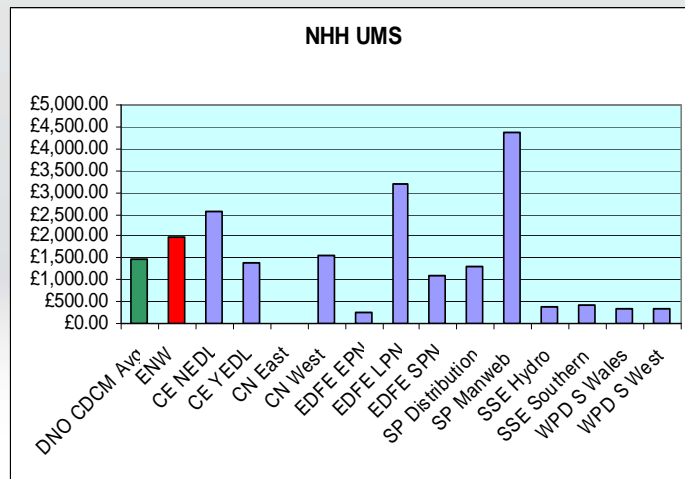
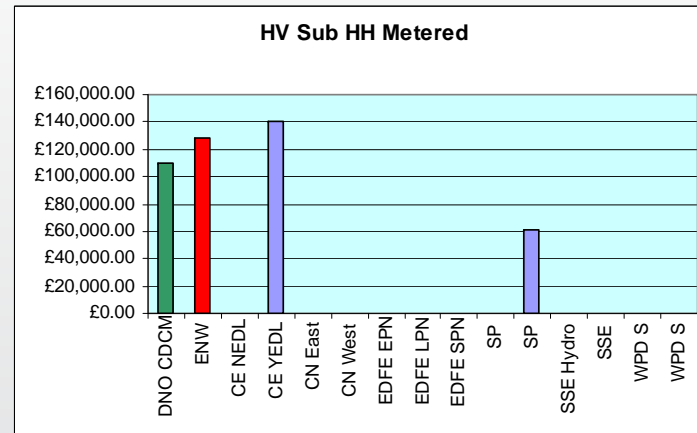
# Average bill comparisons (2)



# Average bill comparisons (3)



# Average bill comparisons (4)



# LDNO margins

	Normalised to	All-the-way charges	LDNO LV margin	LDNO HV margin
Domestic Unrestricted	MPAN	£73.30	£22.14	£31.15
Domestic Two Rate	MPAN	£79.44	£23.99	£33.76
Domestic Off Peak (related MPAN)	MPAN	£7.25	£2.19	£3.08
Small Non Domestic Unrestricted	MPAN	£222.42	£67.17	£94.53
Small Non Domestic Two Rate	MPAN	£294.81	£89.03	£125.30
Small Non Domestic Off Peak (related MPAN)	MPAN	£12.51	£3.78	£5.32
LV Medium Non-Domestic	MPAN	£1,254.21	£378.77	£533.04
LV HH Metered	kVA	£23.46	£7.09	£9.97
LV Sub HH Metered	kVA	£21.92		£3.05
HV HH Metered	kVA	£20.26		£1.44
NHH UMS	MWh	£25.91	£7.82	£11.01
LV UMS (Pseudo HH Metered)	MWh	£26.21	£7.92	£11.14
LV Generation NHH	MWh	-7.59	-	-
LV Generation Intermittent	MWh	-£7.59	-	-
HV Generation Intermittent	MWh	-£3.69		-
HV Generation Non-Intermittent	MWh	-£3.72		-



# Impact on tariffs from initial proposals

Sarah Siddall  
Regulatory Affairs Manager

# Objectives for today

- Understanding the drivers of DPCR5 investment
- Summary of DPCR5 revenues from Initial Proposals
- Understanding the cumulative effect of CDCM and Initial Proposals on tariffs

# DPCR5 (2010/11 – 2014/15)

## Key investment requirements:

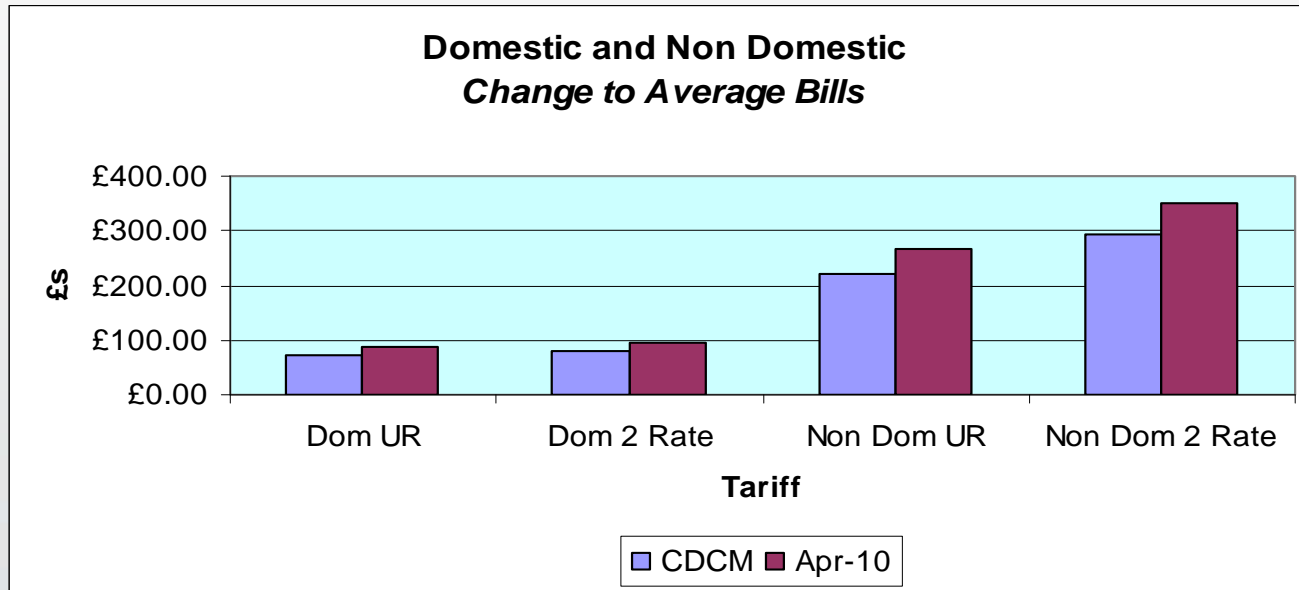
- Maintaining high quality of service standards for customers
- Compliance with safety legislation
- Replacement of ageing network
- Network reinforcement at sites with forecast load issues
- Addressing issues of ageing workforce
- Increased resilience of Manchester CBD to High Impact Low Probability events

# Impact of Ofgem's initial proposals

2009/10 to 2010/11 increase

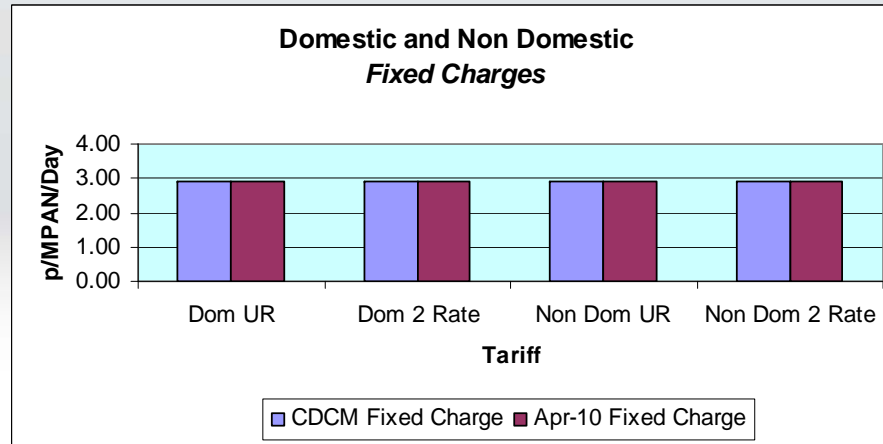
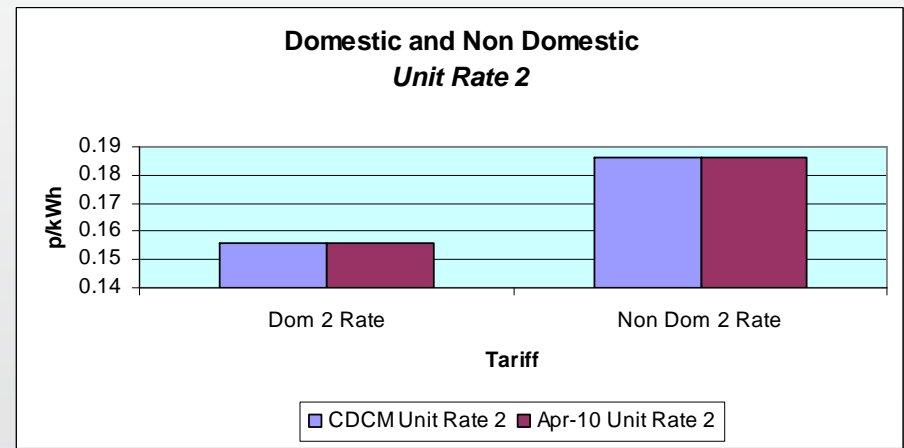
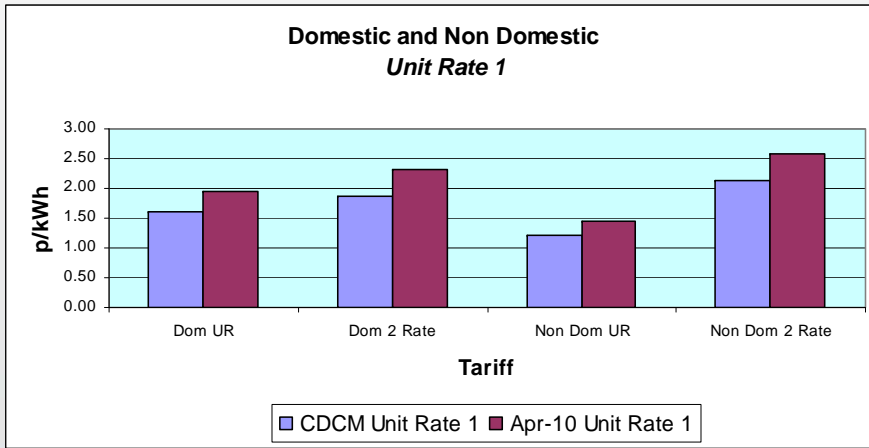
	Initial Proposals	Initial proposals – adjusted to correct 2009/10 position
Revenues matching costs	17.8%	20.9%
Smoothed increase	7.2%	8.2%

# Change to Domestic and Non Domestic Average Bills

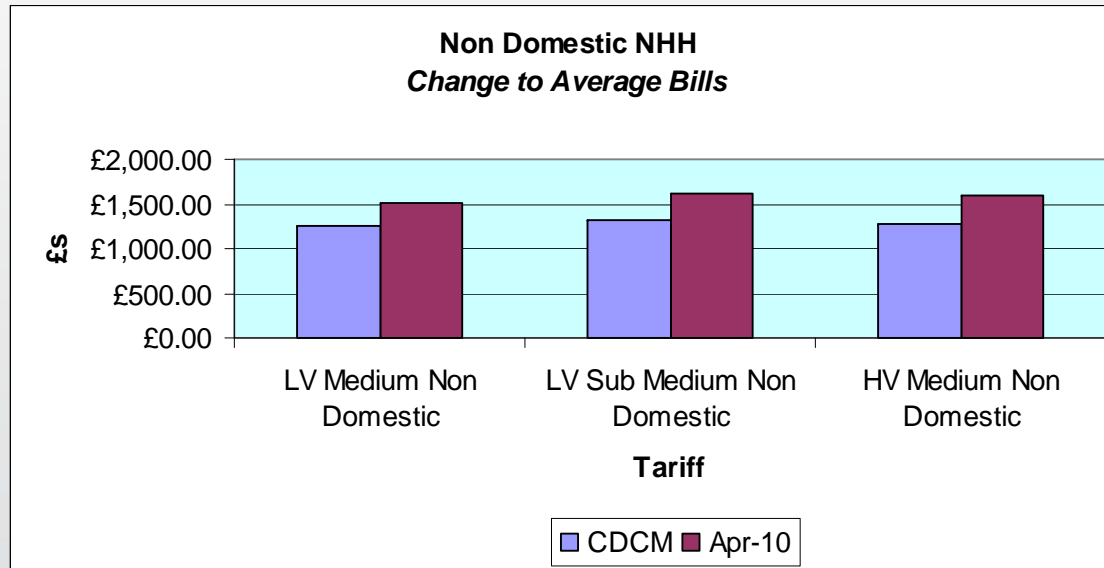


<b>Tariff</b>	<b>Average Bill CDCM</b>	<b>Average Bill Apr-10</b>	<b>% Change</b>
Domestic Unrestricted	£73.30	£86.60	18.13%
Domestic 2 Rate	£79.44	£94.34	18.75%
Non Domestic UR	£222.42	£267.45	20.24%
Non Domestic 2 Rate	£294.81	£350.18	18.78%

# Domestic and Non Domestic Tariff Components

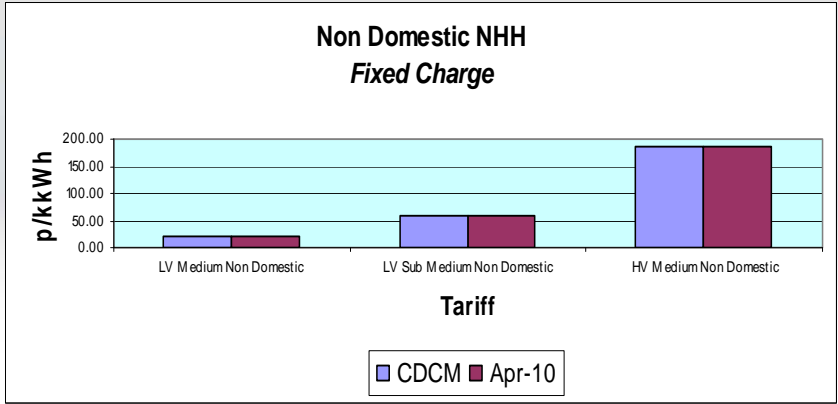
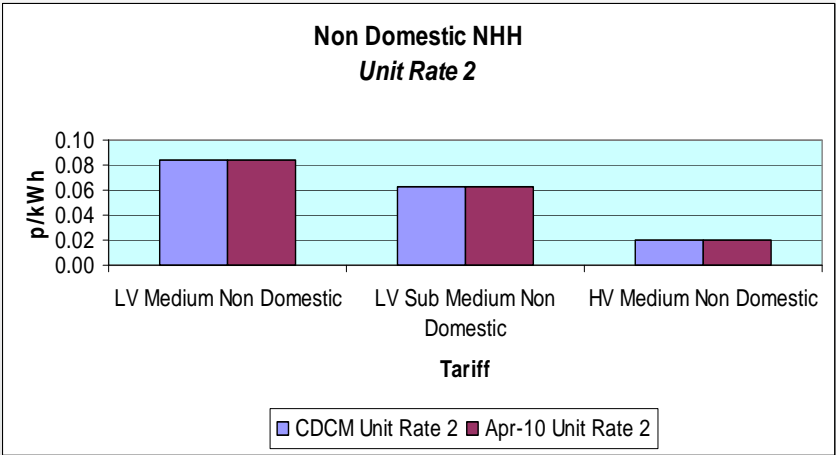
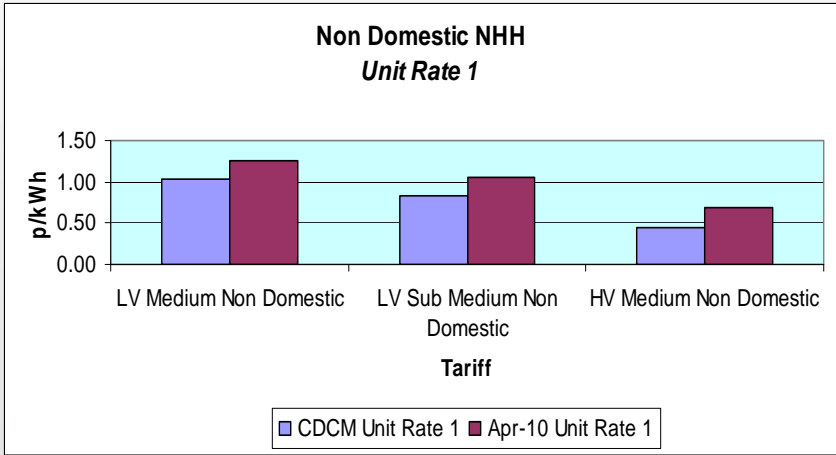


# Change to Non Domestic NHH Average Bills

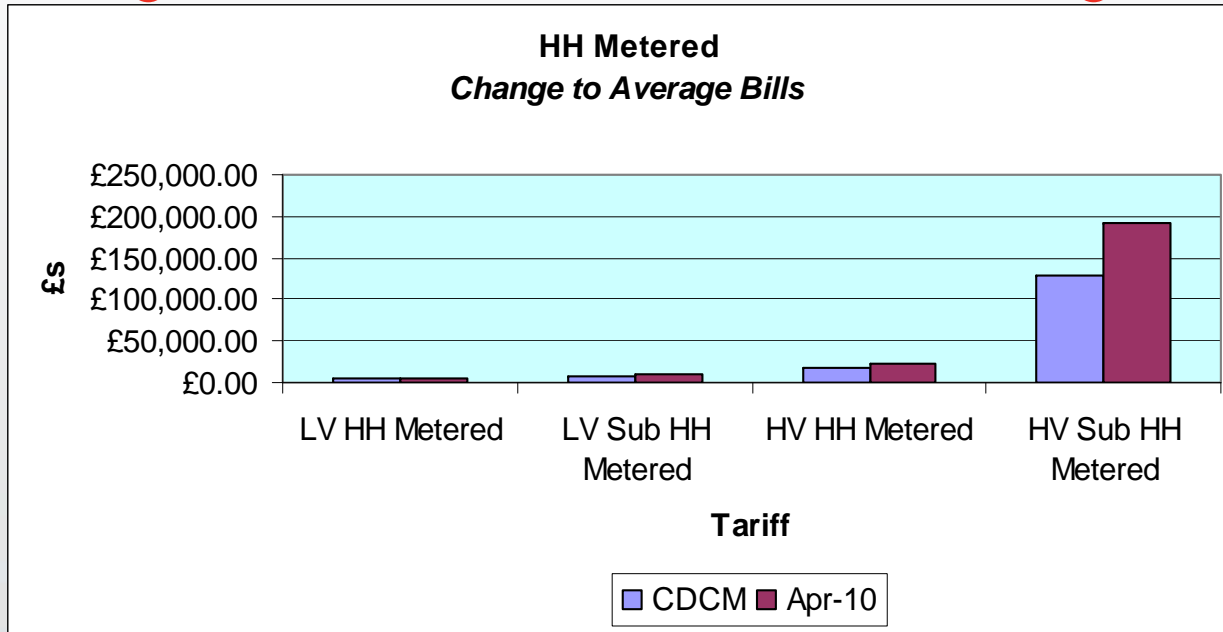


<b>Tariff</b>	<b>Average Bill CDCM</b>	<b>Average Bill Apr-10</b>	<b>% Change</b>
LV Medium Non Domestic	£1,254.21	£1,502.75	19.82%
LV Sub Medium Non Domestic	£1,328.66	£1,617.42	21.73%
HV Medium Non Domestic	£1,271.70	£1,589.62	25.00%

# Non Domestic NHH Tariff Components



# Change to HH Demand Average Bills



Tariff	Average Bill CDCM	Average Bill Apr-10	% Change
LV HH Metered	£4,026.89	£4,617.79	14.67%
LV Sub HH Metered	£8,054.80	£9,520.08	18.19%
HV HH Metered	£17,405.92	£22,689.15	30.35%
HV Sub HH Metered	£128,374.73	£191,153.85	48.90%

# HH Metered Tariff Components

Unit Comparison	Unit rate 1 p/kWh	Unit rate 1 p/kWh	Unit rate 2 p/kWh	Unit rate 2 p/kWh	Unit rate 3 p/kWh	Unit rate 3 p/kWh
	CDCM	Apr-10	CDCM	Apr-10	CDCM	Apr-10
LV HH Metered	5.523	7.727	0.357	0.357	0.052	0.052
LV Sub HH Metered	6.927	10.339	0.378	0.378	0.054	0.054
HV HH Metered	5.118	8.642	0.197	0.197	0.027	0.027
HV Sub HH Metered	3.247	6.515	0.115	0.115	0.015	0.015

Tariff	Fixed Charge p/day CDCM	Fixed Charge p/day Apr-10	% Change
LV HH Metered	9.67	9.67	0.00%
LV Sub HH Metered	34.59	34.59	0.00%
HV HH Metered	83.94	83.94	0.00%
HV Sub HH Metered	95.74	95.74	0.00%

# Generation tariff

CDCM	Unit Rate 1	Unit Rate 2	Unit Rate 3	Fixed Charge	CDCM 2010	Unit Rate 1	Unit Rate 2	Unit Rate 3	Fixed Charge
Tariff	p/kWh	p/kWh	p/kWh	p/MPAN/day	Tariff	p/kWh	p/kWh	p/kWh	p/MPAN/day
LV Generation NHH	(0.759)	.	.	.	LV Generation NHH	(0.759)	.	.	.
LV Generation Intermittent	(0.759)	.	.	.	LV Generation Intermittent	(0.759)	.	.	.
LV Generation Non-Intermittent	(8.511)	(0.630)	(0.093)	.	LV Generation Non-Intermittent	(8.511)	(0.630)	(0.093)	.
LV Sub Generation Intermittent	(0.594)	.	.	.	LV Sub Generation Intermittent	(0.594)	.	.	.
LV Sub Generation Non-Intermittent	(6.877)	(0.462)	(0.067)	.	LV Sub Generation Non-Intermittent	(6.877)	(0.462)	(0.067)	.
HV Generation Intermittent	(0.370)	.	.	5.39	HV Generation Intermittent	(0.370)	.	.	5.39
HV Generation Non-Intermittent	(4.683)	(0.230)	(0.032)	5.39	HV Generation Non-Intermittent	(4.683)	(0.230)	(0.032)	5.39
HV Sub Generation Non-Intermittent	(3.306)	(0.128)	(0.017)	5.39	HV Sub Generation Non-Intermittent	(3.306)	(0.128)	(0.017)	5.39
HV Sub Generation Intermittent	(0.247)	.	.	5.39	HV Sub Generation Intermittent	(0.247)	.	.	5.39

# Possible changes for final proposals

## ➤ Outstanding decisions:

- WACC
- Pensions
- Expenditure
  - Demand connections
  - General reinforcement
  - Large projects
  - Flooding
  - HILP
  - BT21CN
  - Profile of revenues

## ➤ Significant errors in Ofgem approach

- Pension allowances
- Comparative analysis
- Allowance indexation

## ➤ Areas of disagreement

- Marginal safety clearance
- Diversions
- Dismantlement
- Several specific replacement and reinforcement projects

# Next steps.....

- On-going discussions with Ofgem
- Autumn update by 21 September 2009
- Final proposals on 30 November 2009
- Publish indicative prices by 31 December 2009
- Publish final prices by 20 February 2010
- Start of new price control and implementation of CDCM and tariffs on 1 April 2010

# Glossary of Terms

BT21CN	BT's 21 <sup>st</sup> Century Network
CDCM	Common Distribution Charging Methodology
CHP	Combined Heat and Power
CI	Customer Interruptions
CLM	Collective Licence Modification
CMLs	Customer Minutes Lost
DNO	Distribution Network Operator
DPCR5	Distribution Price Control Review 5
EDCM	EHV Distribution Charging Methodology
EHV	Extra High Voltage
ENA	Energy Networks Association
ENW	Electricity North West

# Glossary of Terms

HH	Half Hourly
HILP	High Impact Low Probability
HV	High Voltage
LDNO	Licensed Distribution Network Operator
LRIC	Long Run Incremental Cost
LV	Low Voltage
NHH	Non Half Hourly
OFGEM	Office of Gas and Electricity Markets
KVA	kilovolt-ampere
MPAN	Meter Point Administration Number
PC	Profile Class
RPI	Retail Price Index
WACC	Weighted average Cost of Capital