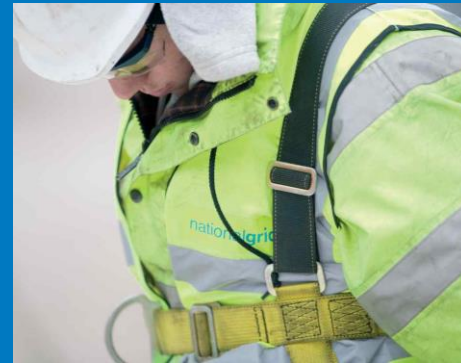


## Gas Charging Review



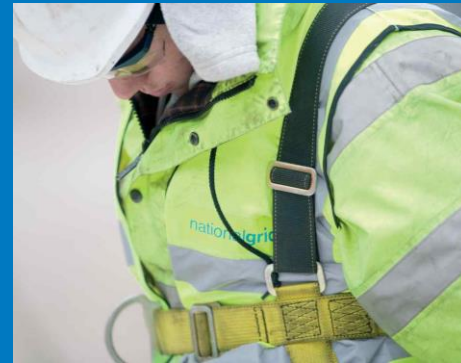
NTSCMF – 4 May 2016

Please note: this slide pack will be updated on 29 April to include some additional material to meet the agenda proposed for discussion on 4 May. Please check on 29 April for these updates.

# Agenda

| Area                                      | Detail   |
|---|--|
| Terms of Reference and work plan          | <ul style="list-style-type: none"> <li>• Reminder of ToR and Work Plan for any proposed changes</li> </ul>   |
| Summary of April NTSCMF Analysis          | <ul style="list-style-type: none"> <li>• Key messages from analysis presented at NTSCMF on 06 April 2016</li> </ul>  |
| Relevant Objectives (GB and EU)           | <ul style="list-style-type: none"> <li>• GB relevant objectives / charging obligations</li> <li>• Tariff Code obligations</li> </ul>                               |
| Alternative Reference Price Methodologies | <ul style="list-style-type: none"> <li>• Ofgem GTCR Conclusions and discussion</li> <li>• Other methodologies proposed in previous EU TAR NC drafting</li> </ul>   |
| Modelling CWD and LRMC with flow data     | <ul style="list-style-type: none"> <li>• Additional analysis to build on CWD analysis presented in April</li> <li>• Discussion on areas for development</li> </ul> |
| EU Tariffs Code – Current Outlook         | <ul style="list-style-type: none"> <li>• Key updates relevant to Gas Charging Review</li> <li>• Areas under discussion</li> </ul>                                  |
| Dual Regime discussion                    | <ul style="list-style-type: none"> <li>• Consider EU TAR NC and GB Framework to discuss areas where dual regime may be permitted</li> </ul>                        |
| Next Steps                                | <ul style="list-style-type: none"> <li>• Future NTSCMF workshop planning</li> </ul>  |

## Gas Charging Review



Summary of April NTSCMF Analysis

## Recap – last NTSCMF

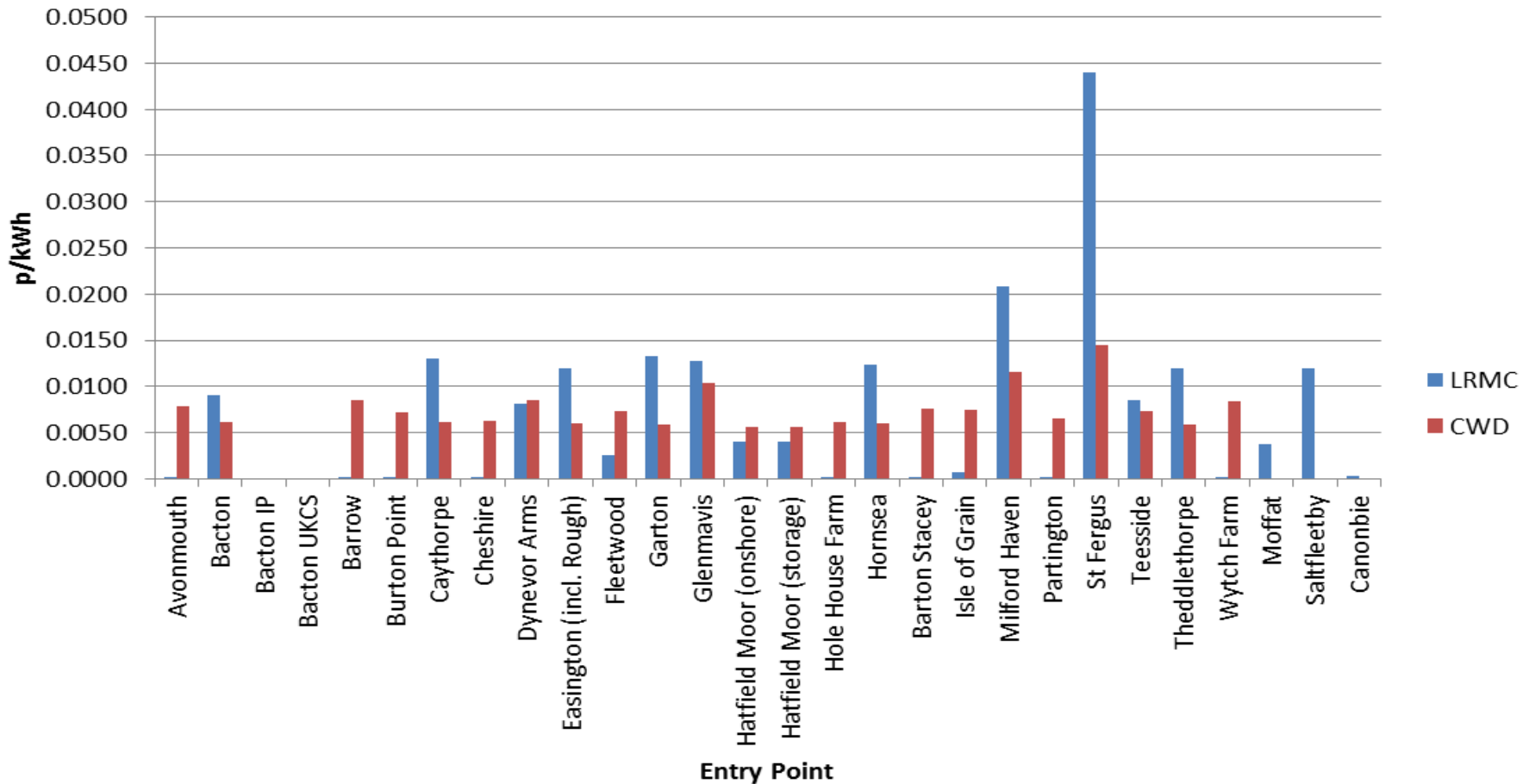
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- Modelled Capacity Weighted Distance (CWD)
  - With revenue for applicable year
  - With flat revenue
  - With Baseline/obligated capacity values
  - With Sold capacity values
- Modelled Long Run Marginal Cost (LRMC)
  - Updated revenue (Exit Model)
  - Updated Supply and Demand (Exit Model)
- April NTSCMF data and slides available here:  
<http://www.gasgovernance.co.uk/ntscmf/060416>

# LRMC vs CWD

## Entry Capacity 2014/15

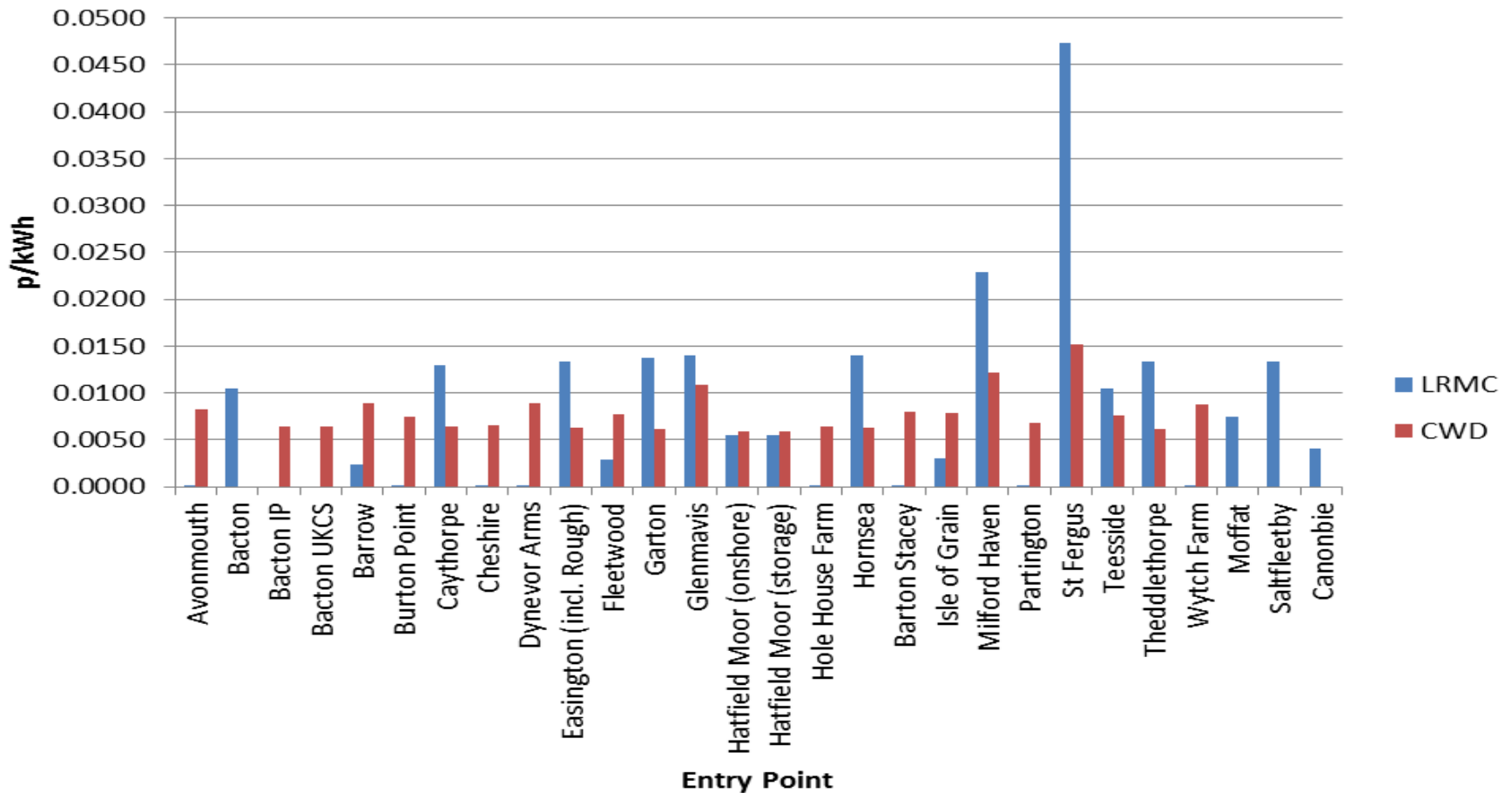
### Entry Point prices for 2014/15



# LRMC vs CWD

## Entry Capacity 2015/16

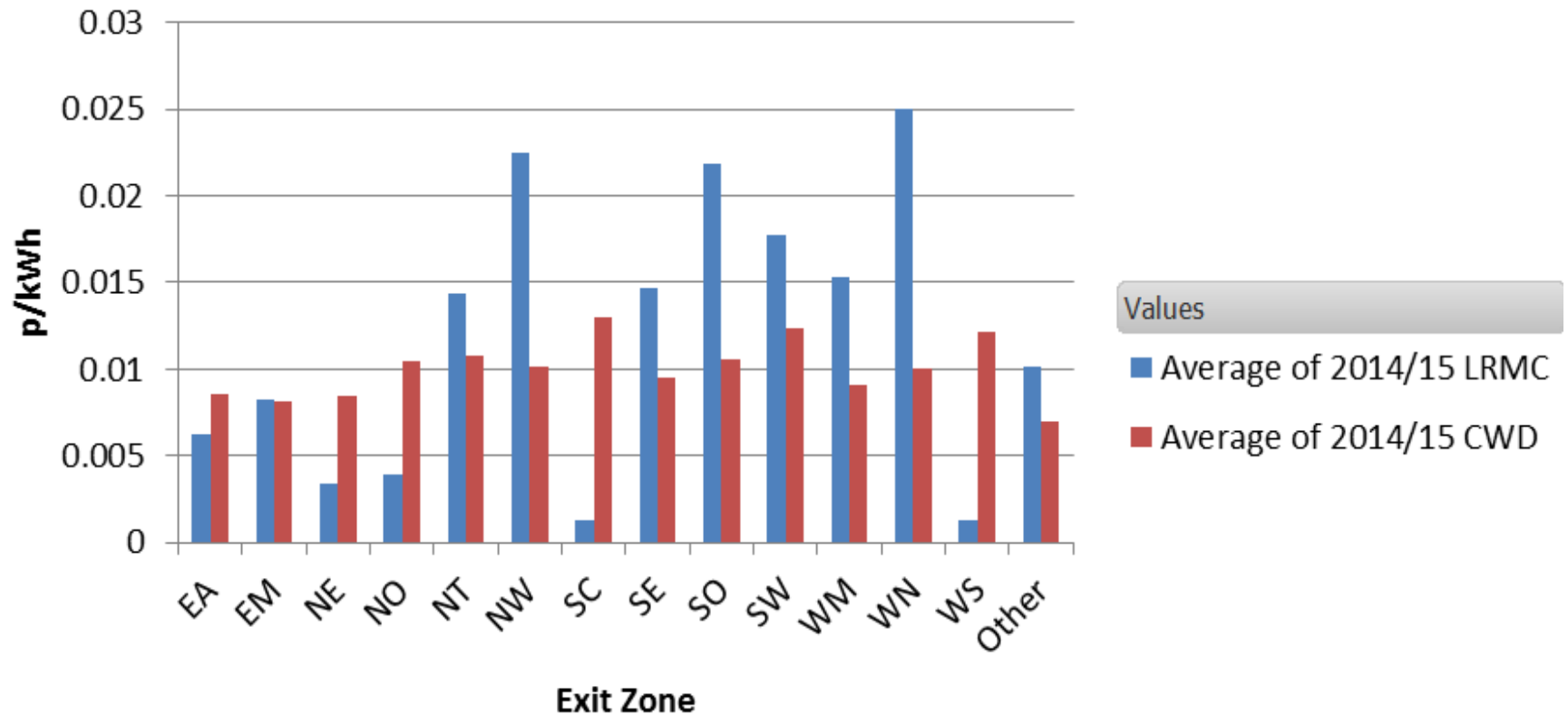
### Entry Point prices for 2015/16



# LRMC vs CWD

## Exit Capacity 2014/15

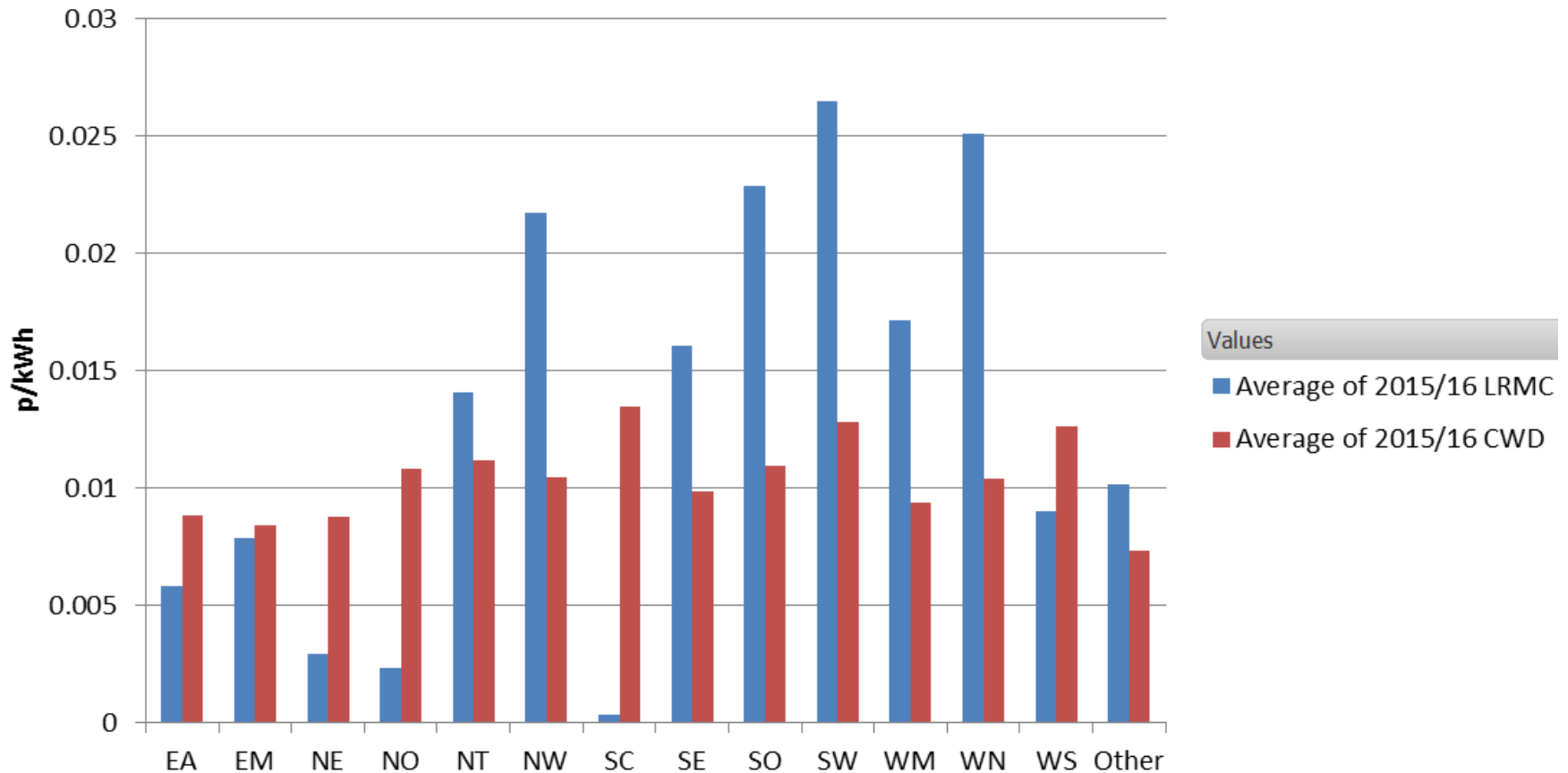
### Exit Zone Average Prices for 2014/15



# LRMC vs CWD

## Exit Capacity 2015/16

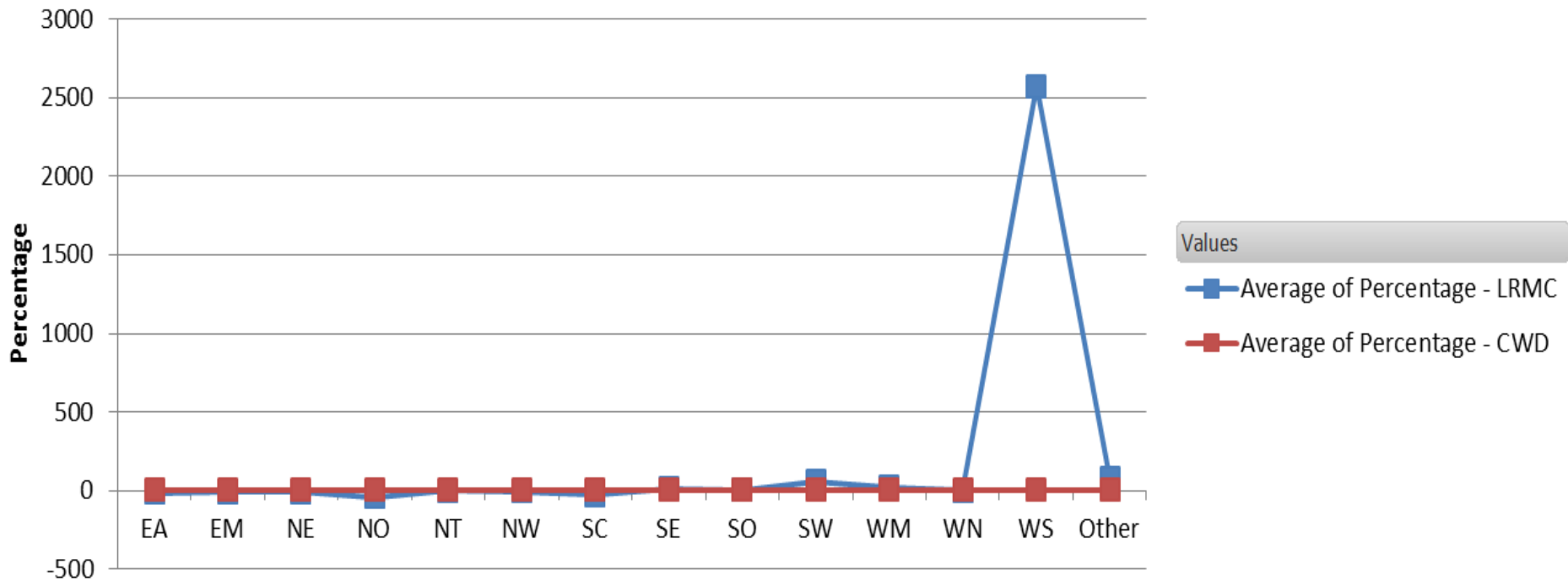
### Exit Zone Average Prices for 2015/16





# Percentage Difference 2014/15 to 2015/16

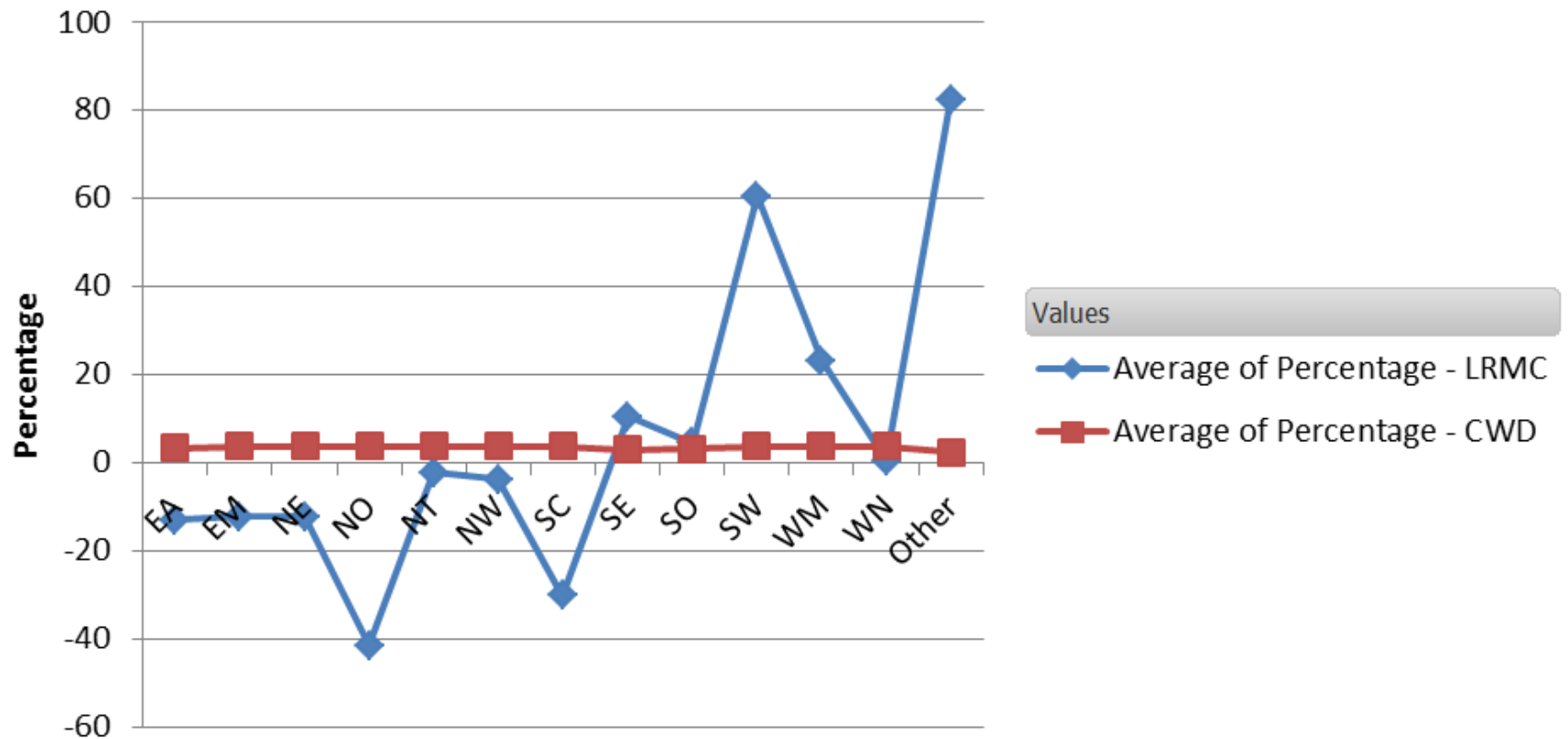
## Percentage Variance in Prices from 2014/15 to 2015/16



*Including those points in WS produces what looks like an anomalous large change for LRMC. This was driven largely by updating supply/ demand values moving several points from minimum price upwards. In order to see other % variances more easily WS can be excluded as shown in the following slide*

# Percentage Difference 2014/15 to 2015/16 (excl zone WS)

## Percentage Variance in Prices from 2014/15 to 2015/16 - Excl WS



# Summary of Analysis

## CWD compared to LRMC presented 6 April 16

---

- LRMC approach has potentially volatile Capacity prices with certain components driving large swings, including the method of how they are incorporated
  - Supply / Demand (Entry and Exit)
  - Revenue input (Exit only)
- LRMC approach looks to minimise the overall flow distance on the NTS for a flow scenario
- Does mean some prices are very low (including minimum or floor price) and some are high

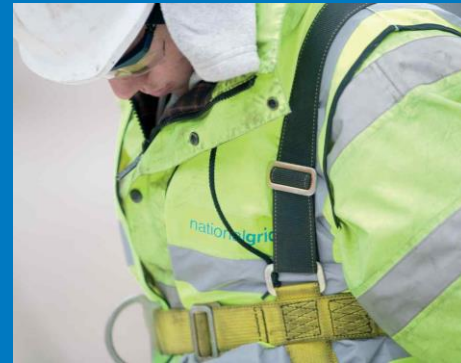
# Summary of Analysis

## CWD compared to LRMC presented 6 April 16

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- CWD, as it is averaging across the whole NTS, generally showing changes (using 14/15 to 15/16) would be less volatile
- Takes the edge off the extremities of pricing (those points with very high or very low prices)
- Small data set
- Does not take into consideration
  - Short term pricing
  - Alternative products / arrangements
  - What to do with prospect of zero prices
  - Potential options to refine or develop on

## Gas Charging Review



Relevant Objectives (GB and EU)

# Reminder of Charging Obligations / Relevant Objectives – GB Current

| Licence Obligations   | Detail   |
|---|--|
| <p>Licence Standard<br/>Special Conditions</p> <ul style="list-style-type: none"> <li>A4 - Charging General</li> <li>A5 - Charging Methodology</li> </ul> | <ul style="list-style-type: none"> <li>Keep charging methodology under review</li> <li>Use reasonable endeavours regarding methodology and charge changes:               <ul style="list-style-type: none"> <li>Not to make changes more frequently than twice a year (on 1 April and 1 October)</li> <li>In relation to exit capacity once a year on 1 October</li> </ul> </li> </ul> |

| Relevant Objectives  |   |
|--|---|
| <ul style="list-style-type: none"> <li>Cost reflectivity</li> <li>Promote efficiency</li> <li>Avoid undue preference in the supply of transportation services</li> <li>Best promotes competition between gas suppliers and gas shippers</li> </ul> | <ul style="list-style-type: none"> <li>Take account of developments in the transportation business</li> <li>Compliance with Regulation and decisions from the EC and ACER</li> <li>Follow any alternative arrangement determined by the Secretary of State</li> </ul> |

## EU Tariffs Code “Relevant Objectives”

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- The core obligations to which the TAR NC must align are:
  - **EC 715/2009** (art.13)
    - <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:211:0036:0054:en:PDF>
  - **Dir 2009/73/EC** (art.41(6) & art.32(1)), art.36(1)(d));
    - <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:211:0094:0136:en:PDF>
  - **EC 713/2009** (art.8(2))(d))
    - <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:211:0001:0014:EN:PDF>

## EU Tariffs Code “Relevant Objectives”

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- Charges must be levied for access for existing and incremental infrastructure
- Access based on published tariffs available to all eligible customers
- Applied objectively without discrimination and approved by NRA
- Accounts for need of system integrity and improvement
- Reflect efficient costs incurred with appropriate return on investment

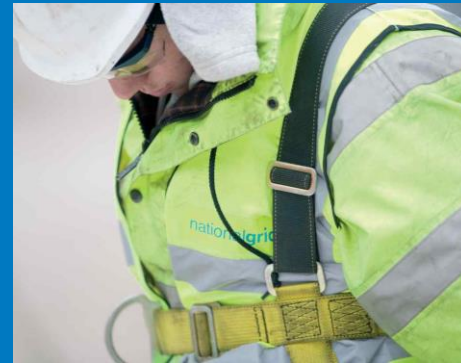


## EU Tariffs Code “Relevant Objectives”

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- Can take account of benchmarking by NRA
- Facilitate efficient gas trade and competition
- Avoid cross-subsidies between users
- Provides incentives for investment and interoperability
- Set separately for every entry and exit point
- Cannot restrict market liquidity nor distort cross-border trade
  - If cross-border trade hampered, TSOs and NRAs must cooperate to pursue convergence of tariff structures and charging principles

## Gas Charging Review



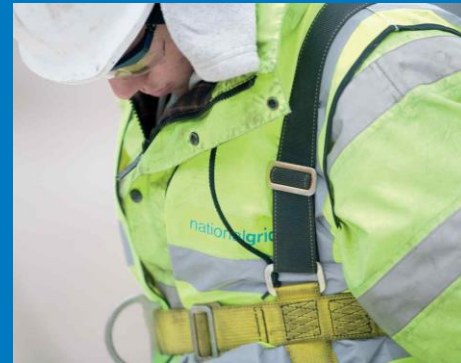
Alternative Reference Price Methodologies

## Placeholder

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- Placeholder for material on GTCR and alternative methodologies under previous drafting of the EU Tariffs Code - to be populated on 29 April 16

## Gas Charging Review



Modelling CWD and LRMC with flow data

## Modelling CWD and LRMC with flow data

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- This analysis builds on that presented at April NTSCMF <http://www.gasgovernance.co.uk/ntscmf/060416>
- We started to show how CWD compares to LRMC
- This was based on using a range of assumptions
- Here we look at LRMC and CWD using the same assumptions except for the Capacity values used as inputs into each
  - Using actual flows as a proxy for forecast capacity
  - Highlighting the proportion of Obligated capacity levels is reflective of actual flows

# High level key assumptions for Modelling CWD compared to LRMC

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- As per April analysis:
- We have assumed that GB has a single methodology for all points (Interconnection Points (IPs) and Non Interconnection Points (Non-IPs)).
- We have assumed no change in behaviour for capacity
- We have not included any discount structure, therefore all capacity at each point attracts the same price
- The purpose of this is to show the high level workings of CWD, comparisons to current methodology, to gain an understanding of how it may be developed or refined
- In the following slides we list the main requirements and remaining assumptions for this modelling

# Key assumptions for capacity: Modelling CWD compared to LRMC

|  | LRMC (Current Methodology)  |  | CWD   |  |
|--|---|--|---|--|
| <b>Years Modelled</b>                              | <b>Gas Years 14/15 and 15/16</b>  |  | <b>Gas Years 14/15 and 15/16</b>  |  |
|  | <b>Entry</b>  | <b>Exit</b>  | <b>Entry</b>  | <b>Exit</b>  |
| Capacity Input (obligated)                         | Obligated Entry Capacity as per Licence and included into the current Transportation Model. | Non-incremental Obligated Exit Capacity as per Licence and included into the current Transportation Model. | Obligated Entry Capacity as per Licence and included into the current Transportation Model. | Non-incremental Obligated Exit Capacity as per Licence and included into the current Transportation Model. |
| Capacity Input (considering Actuals)               | Actual flows on system where available or taken previous years actuals as a forecast        |  |   |  |
| Method of applying Entry / Exit Split (kept 50/50) | Average LRMCs   | Administered prices  | Administered prices   | Administered prices  |

# Key assumptions for network: Modelling CWD compared to LRMC

| Item            |                    | LRMC  | CWD   |
|-----------------|--------------------|---|---|
| Network         |                    | <ul style="list-style-type: none"> <li>As per Transportation Model issued for each year in question used to set Entry and Exit Prices</li> </ul>    | <ul style="list-style-type: none"> <li>Based on network as at December 2015</li> <li>Any new points added in, linked to closest node on the existing network</li> </ul> |
| Cost Components | Expansion Constant | <ul style="list-style-type: none"> <li>Entry and Exit. As per Models. No change.</li> </ul>   | <ul style="list-style-type: none"> <li>Not used</li> </ul>  |
| Cost Components | Annuity Rate       | <ul style="list-style-type: none"> <li>As given in UNC. No change to values used.</li> </ul>  | <ul style="list-style-type: none"> <li>Not used</li> </ul>  |
| Supply / Demand |                    | <ul style="list-style-type: none"> <li>Entry as per MSEC models</li> <li>Exit as per year updated with that years Supply / Demand values</li> </ul> | <ul style="list-style-type: none"> <li>Not used</li> </ul>  |



# Key assumptions for Revenue: Modelling CWD compared to LRMC

| Item   | LRMC  | CWD   |
|--|---|---|
| If applicable for Revenue purposes, Entry and Exit Split | <ul style="list-style-type: none"> <li>Using 50/50 where used (exit only)</li> </ul>  | <ul style="list-style-type: none"> <li>Using 50/50 for both Entry and Exit</li> </ul>   |
| “TO MAR”<br>(LRMC & CWD)                                 | Allowed Transmission Owner Revenue as provided in the Long Term Revenue Forecast ( <a href="http://www2.nationalgrid.com/UK/Industry-information/System-charges/Gas-transmission/Tools-and-Models/">http://www2.nationalgrid.com/UK/Industry-information/System-charges/Gas-transmission/Tools-and-Models/</a> ) for the given year less DN Pensions with a zero value for “K”* then applying Entry / Exit split. |   |
| Revenue for Entry Capacity                               | <ul style="list-style-type: none"> <li>n/a</li> </ul>   | Based on TO Revenue less DN Pensions (assumes “K” is zero). <ul style="list-style-type: none"> <li>Using Allowed Revenues from 14/15 and 15/16</li> </ul> |
| Revenue for Exit Capacity                                | Based on TO Revenue less DN Pensions (assumes “K” is zero). <ul style="list-style-type: none"> <li>Using Allowed Revenues from 14/15 and 15/16</li> </ul>   | Based on TO Revenue less DN Pensions (assumes “K” is zero). <ul style="list-style-type: none"> <li>Using Allowed Revenues from 14/15 and 15/16</li> </ul> |

*\*“K” represents any under or over recovery from a previous year that would be carried forward*

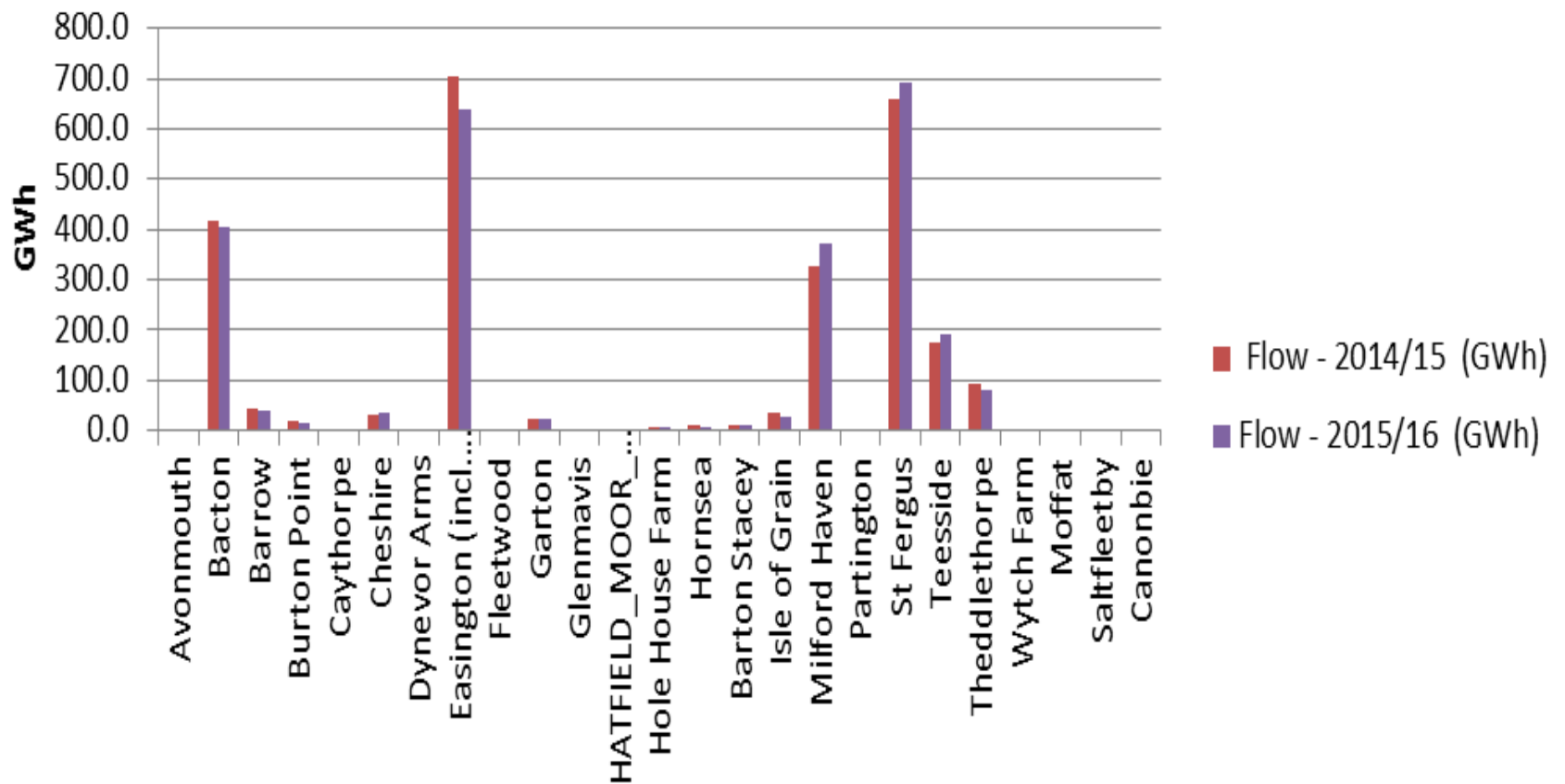
# Which prices are being shown in each chart

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- For Entry Capacity we show the prices for individual points on the charts
- For Exit Capacity, due to the number of points, we show averages by zone
  - Zones aggregated (e.g. SO1 and SO2 are shown as SO)
  - Any Interconnector, Storage, Power Generation and Industrial are in the “Other” average value
  - As these are averages this will not show exact change for individual points however will give a good overview
- All individual prices for each model shown are available in the accompanying spreadsheet available on the Joint Office website (<http://www.gasgovernance.co.uk/ntscmf/040516>)

# Entry – Flow

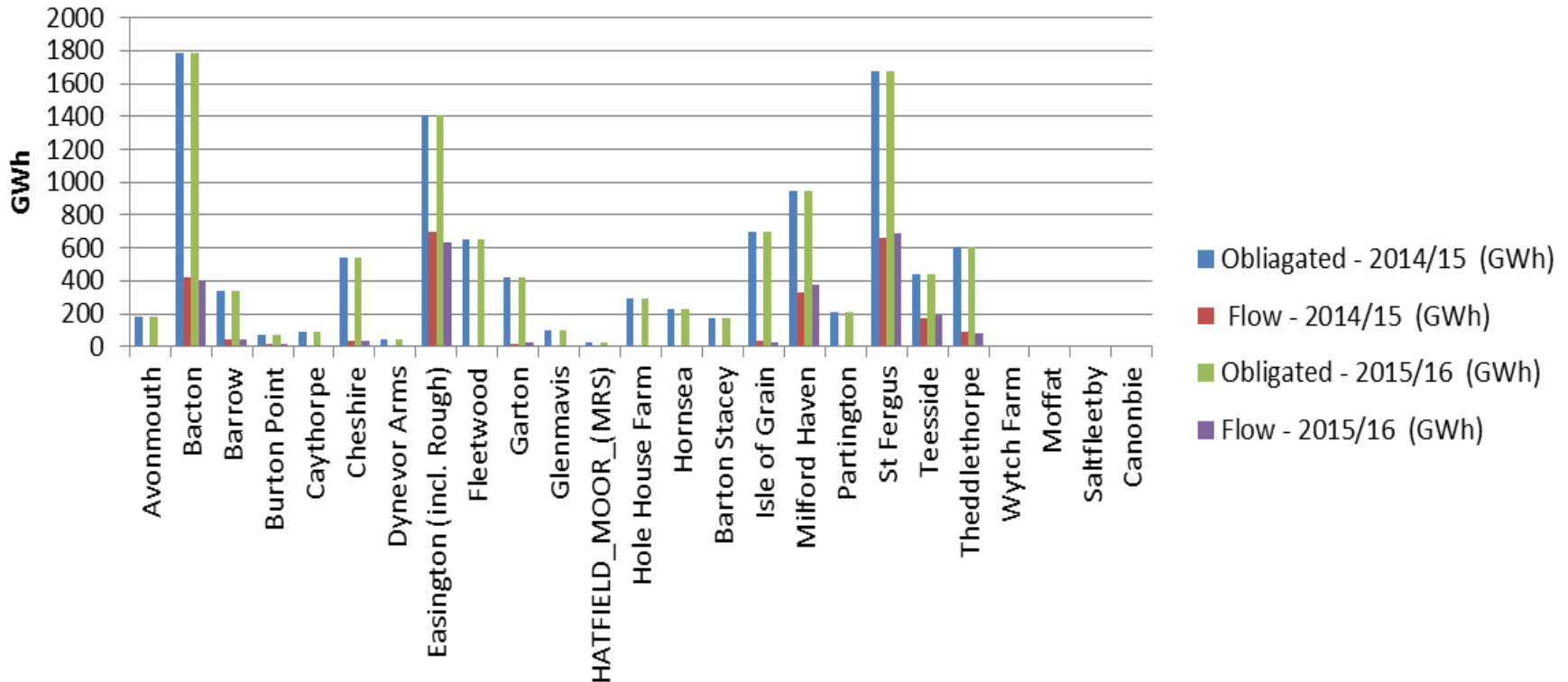
## Entry Flow data



# Entry – Obligated and Flow

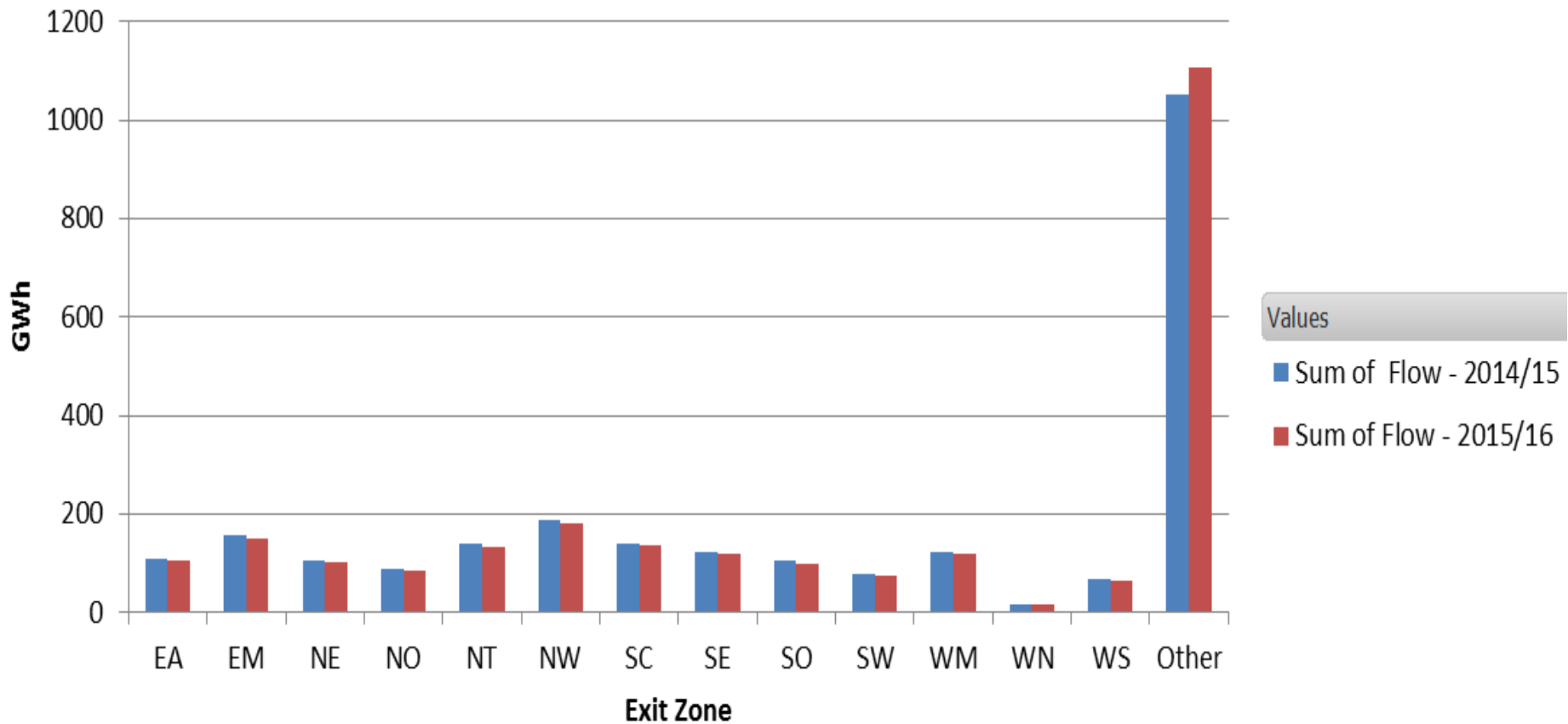
- Flows represent approximately 23% of Obligated

Entry - Obligated and Flow data



# Exit – Flow

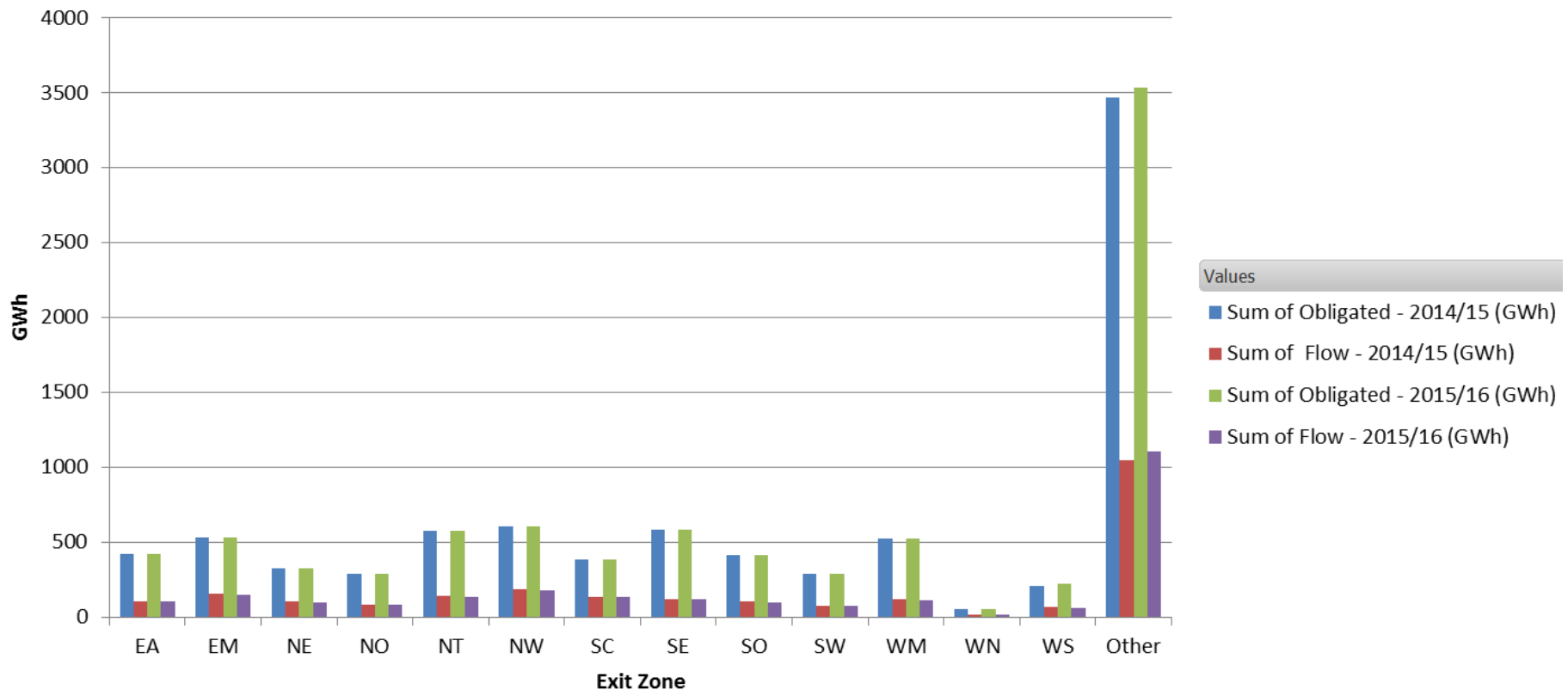
## Exit Flow Data



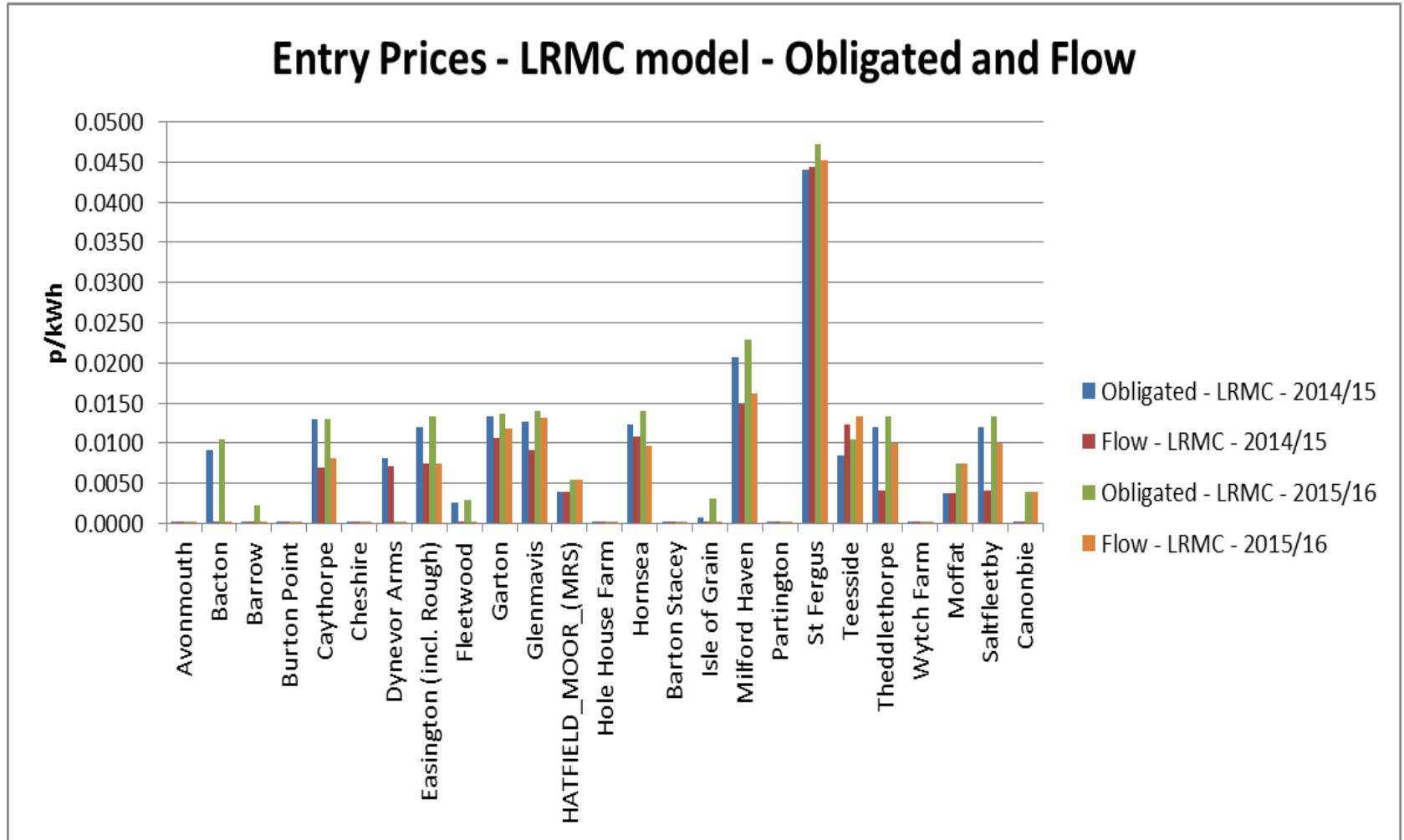
## Exit – Obligated and Flow

- Flows represent approximately 28% of Obligated

Exit Obligated and Flow data

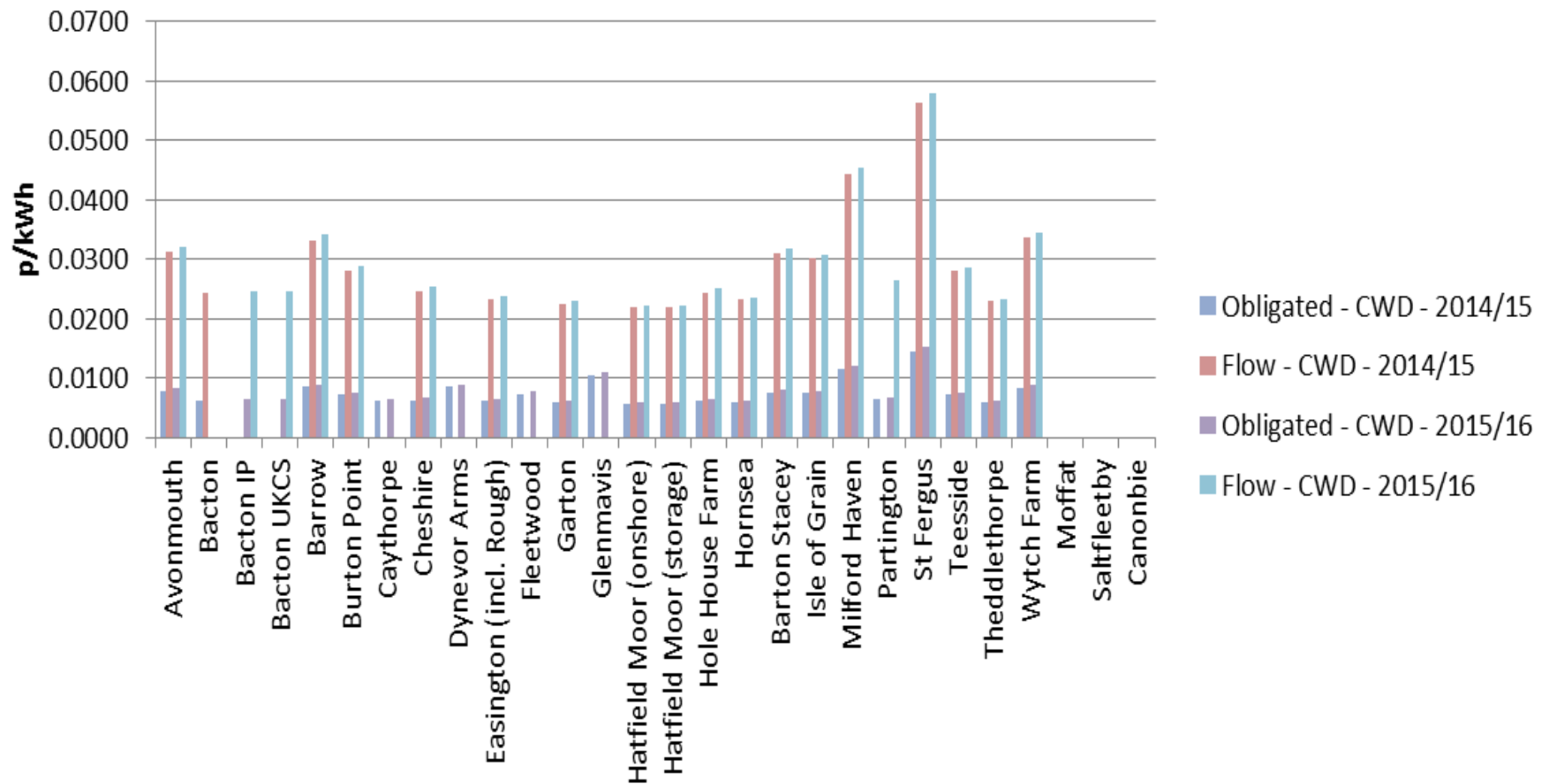


# Entry Prices – LRMC model – Obligated and Flow



# Entry Prices – CWD model – Obligated and Flow

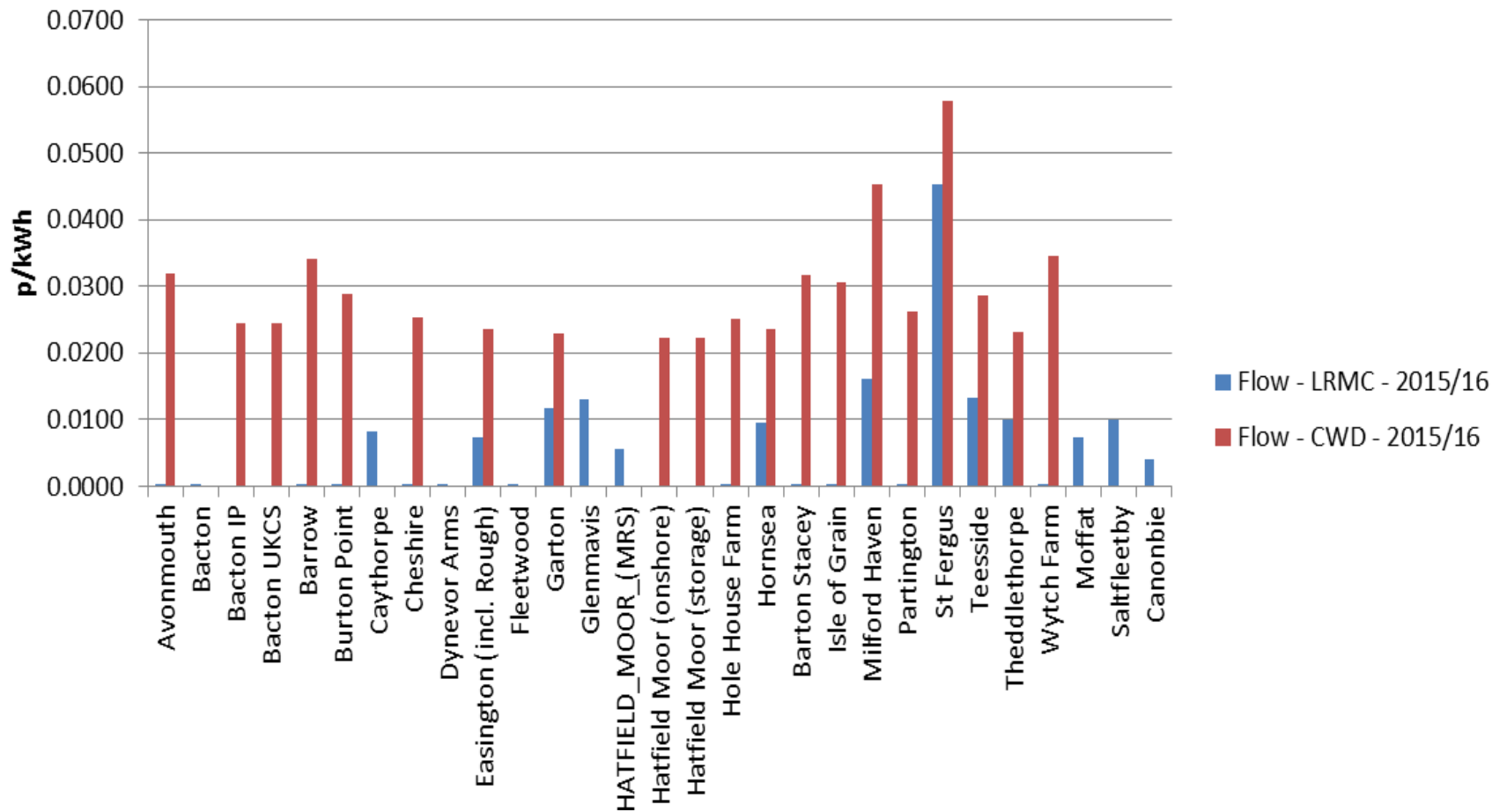
## Entry Prices - CWD model - Obligated and Flow





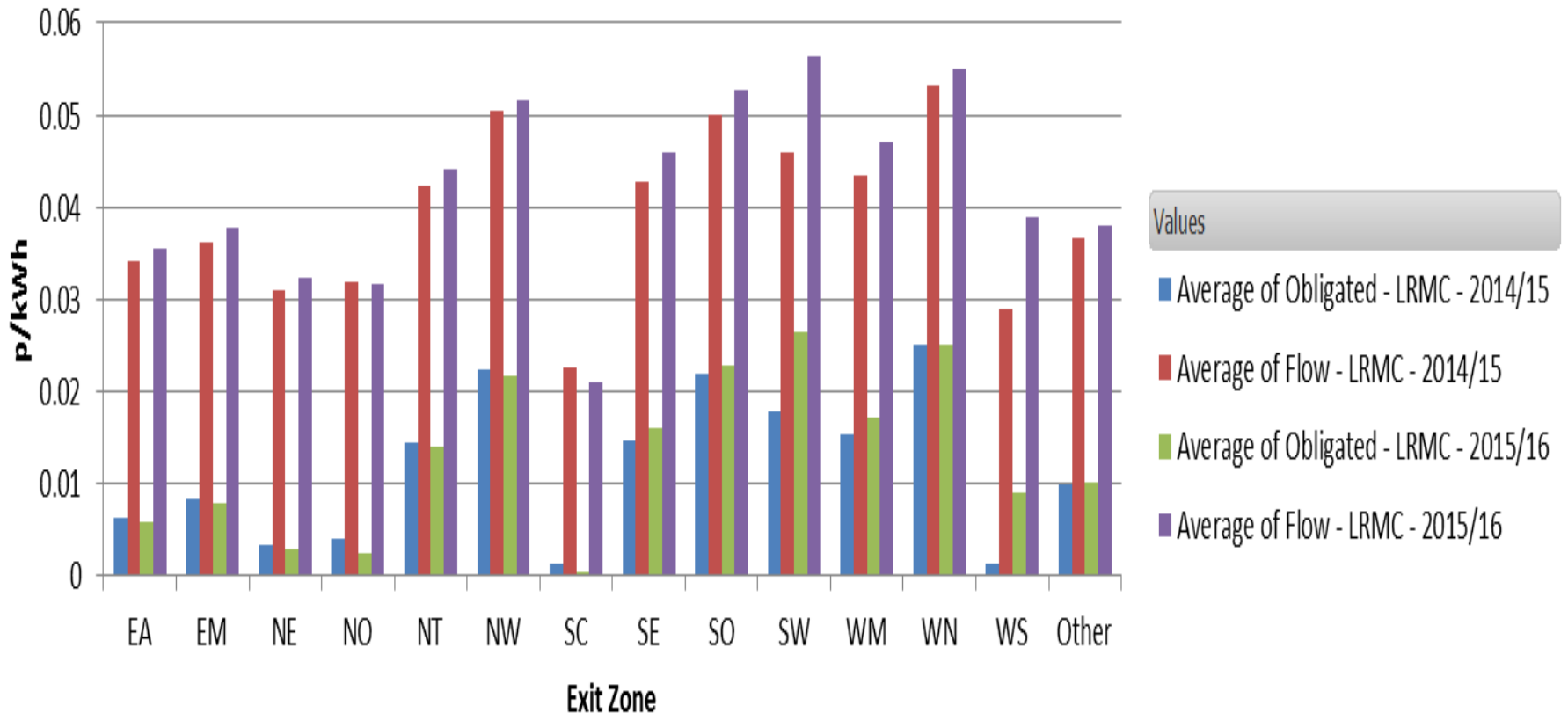
# Entry Prices – LRMC compared to CWD model

## Entry Prices - LRMC compared to CWD model



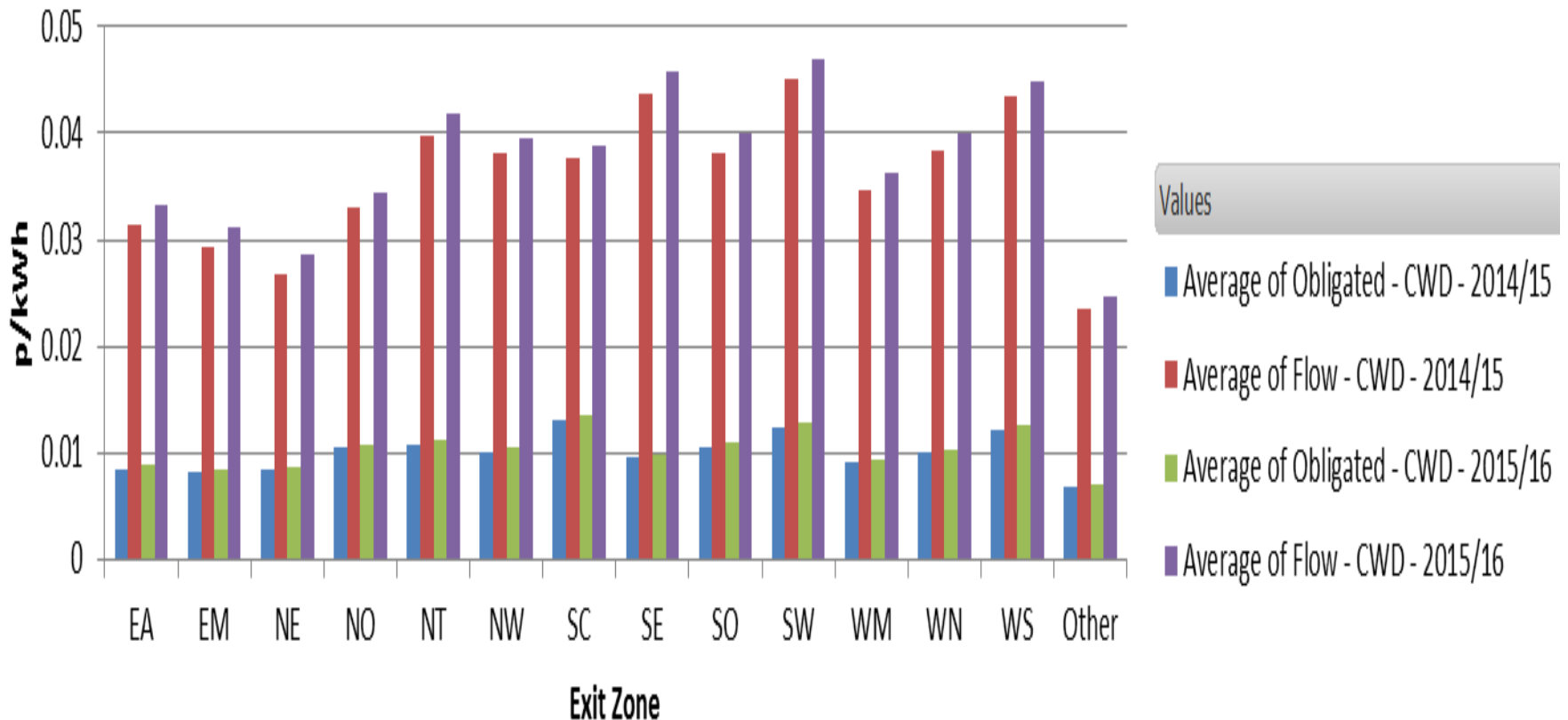
# Exit Prices – LRMC model – Obligated and Flow

## Exit Prices - LRMC model - Obligated and Flow



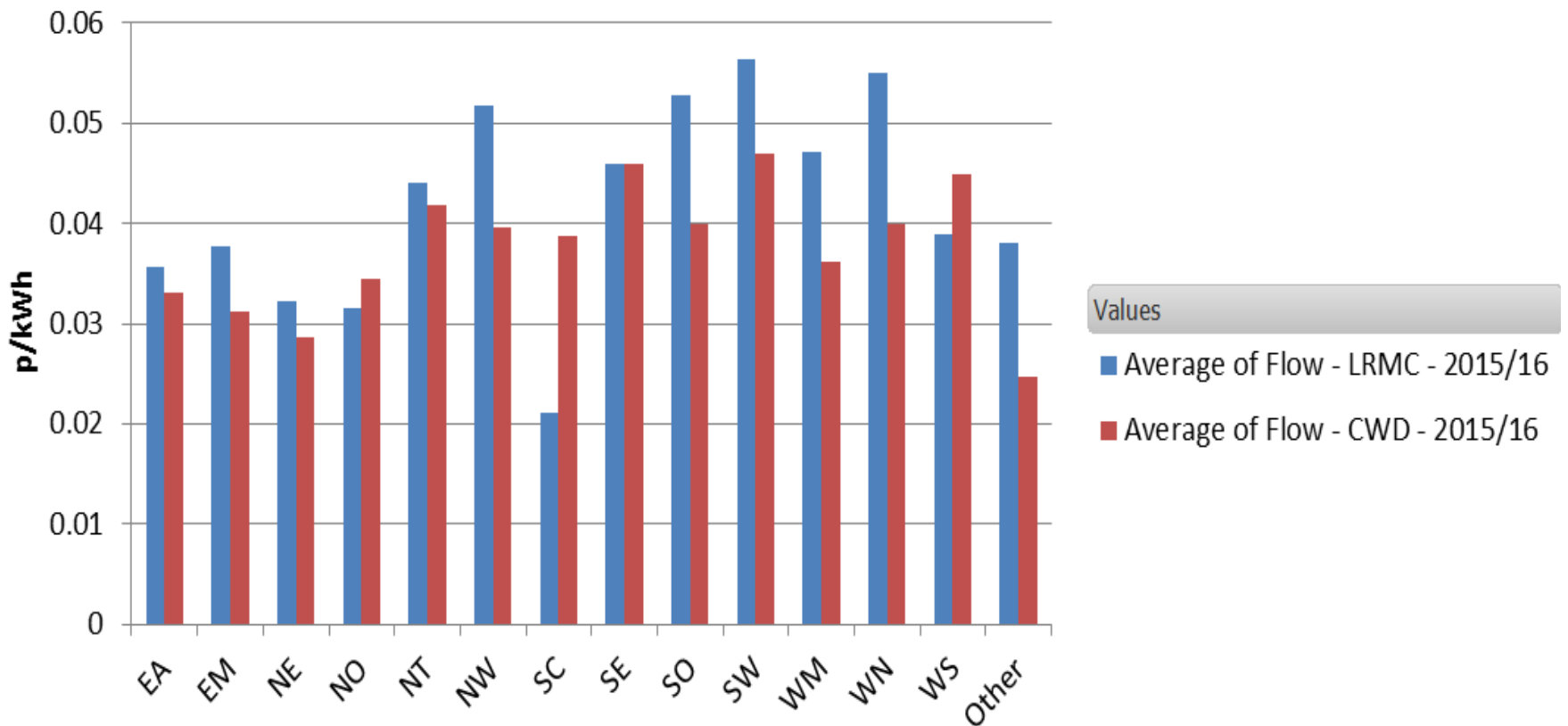
# Exit Prices – CWD model – Obligated and Flow

## Exit Prices - CWD model - Obligated and Flow

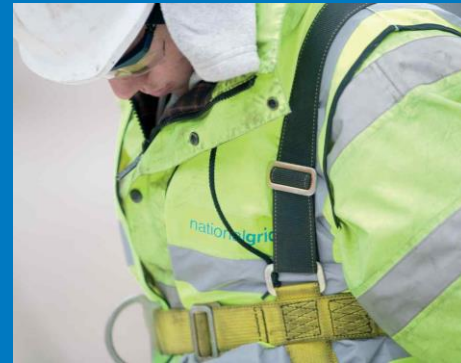


# Exit Prices – LRMC compared to CWD model

## Exit Prices - LRMC compared to CWD model



## Gas Charging Review



EU Tariff Code – Current Outlook

## EU Tariffs Code: current outlook

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- **Implementation timescales (*Art 41*):**
  - Regulation to apply from **1 January 2018**
  - RPM consultation and approval cycle to be concluded no later than **31 May 2018**
  - First annual auction impacted is **July 2018**
- This timeline is major point of contention
- ENTSOG pushing for 24 months implementation
- Applicable date will be decided in comitology

## EU Tariffs Code: current outlook

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- **Regulatory accounting Principles (*Art 38*):**
- Article still highly contentious and likely to receive “push-back” from member states
- Text clarified by EC to highlight that ACER guidance on determination of allowed or target revenues is “non-binding”
- ENTSOG considers the setting of allowed or target revenues as out of scope of the TAR NC
  - **ENTSOG proposes the deletion of article 38 in full.**

## EU Tariffs Code: current outlook

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- **ACER review (*Art 27*):**
- Article has been amended slightly with respect to timescales of each step
- ACER can still make proposed amendments to proposed methodology
- Review cycle is now every five years
- ENTSOG proposes that ACER is removed from NRA decision making process or removed at least from the first cycle and for NRA to take account of ACER's report at subsequent cycle.



## EU Tariffs Code: current outlook

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- **Calculation of interruptible priced (*Art 16*):**
- Adjustment factor **A** has been reinstated
  - **Ex-ante discount = Pro X A X 100%**
  - “**A**” shall be no less than 1 and can vary per standard capacity product
  - This reintroduction is unlikely to change
- Backhaul priced at marginal cost of product reintroduced
  - This will be strongly contested by some TSOs

## EU Tariffs Code: current outlook

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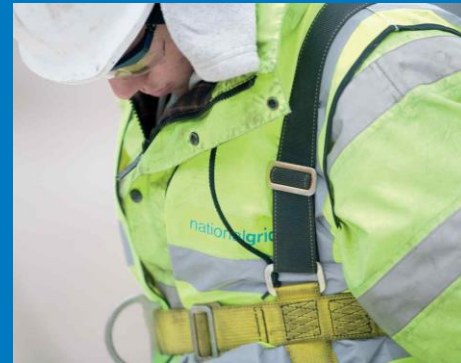
- **Storage (*Art 10*):**
- Latest text confirms that storage discount is at least 50%.
- All criteria for determining discount removed from article
- Level of discount simply subject to consultation
- ENTSOG pushing for discount to be in range of 0-100%

## EU Tariffs Code: current outlook

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- **Existing contracts (*Art 39*):**
- Fixed price element for contracts concluded before 29 November 2013 still included
- Price protection for contracts for incremental capacity concluded between 29 November 2013 and date of application for TAR NC has now been removed
- Text unlikely to change w.r.t. GB regime (there will be a push to reinstate protection of contracts in price-cap regimes)

## Gas Charging Review



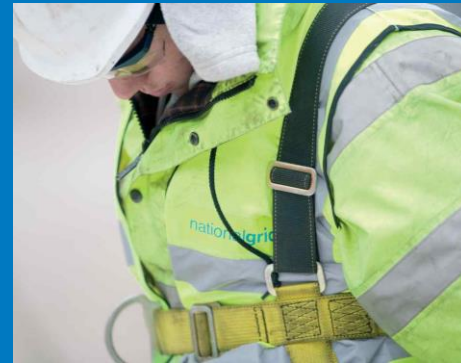
Dual Regime discussion

## Placeholder

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- Placeholder for material on Dual Regime scenarios for discussion – to be populated on 29 April 16

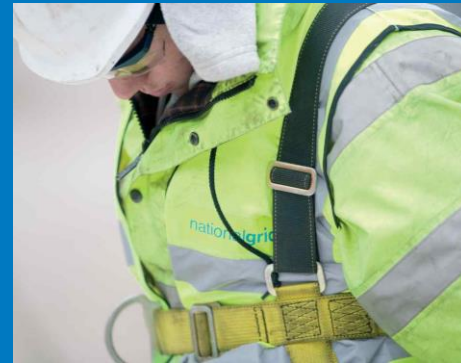
## Next Steps



## Next Steps

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## Contact us



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