

# BM Constraint Actions in Scotland – Examples of historical data & FAQ Local Constraint Market (LCM)

Responding to Stakeholder feedback and questions on the low-cost volumes and prices available to the ESO, as we have taken actions to resolve some of the significant boundary constraints in Scotland.

19/10/2023



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## Introduction

ESO has been conducting extended trials of a Local Constraints Market as an interim and simplified service to allow increased competition and costs saving versus the balancing mechanism (BM).

The LCM service is targeting constraints in Scotland where the overall spend is set to grow. The current BM actions generally turn down larger generators (wind or gas units – some of which pay ESO to turn down) and such turn actions can be very cost effectively priced per MWh, as a ready means to resolve constraints at boundaries. The real time nature of the BM also means that BM can also be more precise, according to level needed. The LCM Day Ahead market is considered only in certain circumstances where wider operational data<sup>1</sup> available at the time give confidence that an LCM competition would be operable and justified.

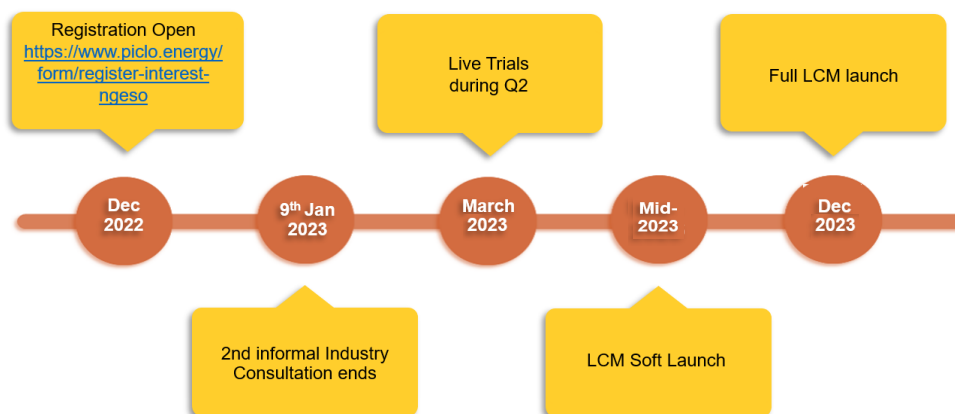
The BM remains the main (and default) mechanism which will be used by National Control to resolve the majority of constraints at Scottish boundaries. Day Ahead bids that are priced cost-effectively versus the BM could then be considered. In practice an LCM will need prices below the BM volume weighted average price.

Trials have been taking place throughout the summer and we continue to take a learn by doing approach in close liaison with all our trial Providers and our partner Piclo, inviting more market and stakeholder feedback.

Updates on the LCM service will continue to be made available via this website:

<https://www.nationalgrideso.com/industry-information/balancing-services/local-constraint-market>

## LCM Trials & Launch



<sup>1</sup> Wider operational data taken into account when considering an LCM Day Ahead competition may include forecast conditions, state of the transmission network and more localised e.g., GSP constraints in Scotland.

## Frequently Asked Questions on BM constraint pricing information

Thank you to our growing number of Providers who are taking part in LCM trials and for the recent questions to ESO about BM pricing of Scottish constraint action, to engage cost-effectively with the new LCM market.

This report and the accompanying [spreadsheet](#) are in response to our stakeholder interest in BM pricing. We are responding to offer more information about the volumes and prices available to ESO in the Balancing Mechanism. Any ESO use of LCM is aiming to be cost-effective compared with BM pricing. Please note the prices and figures shown here are historical data sample (likened to ideal conditions of perfect forecasting rather than a real scenario that might justify LCM prices) and should therefore be treated as examples only.

We are providing this for general information and context, in the Q&A format below.

# ESO FAQ – Sample BM data for LCM Stakeholders 19/10/2023

Subject	Answer
<b>What is the purpose of the report?</b>	<p>To assist and inform our stakeholder and new market participants who are considering bidding in LCM Competitions. The report is an example analysis of sample data, intended to improve information on some of the past volumes and prices in the (alternative) Balancing Mechanism (BM) on days where the level of constraint proved to be significant. The report is <b>not intended</b> to:</p> <ul style="list-style-type: none"><li>- say why particular actions or units were taken;</li><li>- set or indicate the ESO's forward looking pricing policies. The ESO is required to keep details of commercial pricing confidential under our C16 commitment to Ofgem.</li></ul>
<b>Why is this being published now?</b>	<p>The LCM is a new market therefore a body of historical LCM actions has not been undertaken yet. More data is emerging as the LCM explores and trials distributed responses to assist with Scottish constraints. BM raw data is however already publicly available and published by ESO, but some providers have said existing BM data can be too detailed and difficult to analyse and apply to the LCM scenario. This one-off analysis has been produced for those interested in the LCM market to help show some of the historical actions and price options available to the ESO via the BM.</p>
<b>What data is in the report</b>	<p>The data is past BM data taken from more detailed published data, selecting necessary actions necessary when the main Scottish boundaries were thermally constrained (SCOTEX B6 and SSE-SP2 B4). As such it is a backward-looking view of prices (historical Volume Weighted Average price) and LCM may not always be cost effective in future, even if bids undercut past prices.</p> <p>Days shown in the report are those of significant constraint (&gt;500 MWh per half-hour settlement period, active for more than 6 hours continuously). In this way we aim to reflect days when control room's Daily Plan requirements <i>might have triggered</i> an LCM Day Ahead competition.</p>
<b>Why are VWA Prices used? (Volume Weighed Average)</b>	<p>The new LCM market is inviting wider competition to improve the overall cost effectiveness of actions compared with just using the default alternative – the Balancing Mechanism(BM). Volume weighting the averages of all relevant BM actions is a fair representation of the price in the BM you would need to beat to make savings ahead of time as part of the overall action taken.</p>
<b>Does the report indicate future use of the LCM?</b>	<p>No. ESO takes confidential views of the price needed to save costs versus the BM and past prices are part of this. Historical data alone is not a basis for future actions, prices or level of constraint. The LCM takes decisions up to 36 hours or more in advance of the instructed settlement periods.</p>
<b>Why do years/prices and #Days use vary so much?</b>	<p>Many factors are influencing this. Weather (wind conditions), outages and planned work undertaken at the boundary are all significant factors.</p>
<b>What drives the level of constraints?</b>	<p>Constraint volumes also depend on multiple factors including the weather and can be difficult to forecast accurately. Whilst wind generation capacity in Scotland is expected to grow and the overall MW value of constraints is set to increase, BM prices may also change with increased volume. Network factors and transmission <a href="#">reinforcement plans</a> also affect the constraint rating.</p>
<b>Why does this report focus on Constraints at the 1000 MW level?</b>	<p>The BM remains the ESO's main mechanism at all times. Also, on occasions when constraints are difficult to forecast or could be intermittent, Control Rooms is more likely to use the BM than to commit to any uncertain day ahead actions. The LCM can therefore be used to greatest effective to target part of known sustained requirement by securing additional responses at lower costs in advance. In order to make an LCM decision in advance (with a cost commitment) a high level of confidence is needed and the 1000 MW level (500 MWh-per-SP over 6 hours) reflects this.</p>
<b>What does this tell us about LCM prices for cost savings?</b>	<p>With perfect forecasting, an LCM <i>might be able</i> to beat the BM up to a theoretical maximum of half of this 1000 MW action. In practice an LCM will need prices below the BM VWA price.</p>
<b>Why is the System Scarcity Price (SSP) given?</b>	<p>SSP is shown as a guide to the ABSVD issue that LCM and our Stakeholders have helped to identify. The ESO is listening to stakeholder feedback that the ABSVD mechanism can be difficult or unfair for some providers to operate or access e.g. LCM Aggregators of demand turn up from distribution connected MPANs. If LCM parties were able to opt-out such MPANs from ABSVD, in those cases the SSP is an indicator of the effective increase in Cashout cashflows due to imbalance. ESO is exploring if this could instead be accessed as part compensation for LCM action by those MPANs, assuming that ESO or another industry party were permitted or able to set up or operate such a compensation for LCM demand turn up energy at the opted-out MPANs.</p>

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Subject	Answer
<b>Would an LCM have been used on the days shown in report on some BM actions?</b>	The report configuration is set up to indicate days when it is more likely that an LCM would be considered for use, on the basis that such a constraint level may have presented to the operational teams in National Control as justifying or benefitting from an LCM competition at time that LCM is considered - Day Ahead. Identical numbers tomorrow may not trigger LCM use.
<b>Why are odd prices in the table positive?</b>	<p>Many units incur costs when the ESO asks them to turn down generation. Some make savings when they turn down – they will help to make the overall actions cheaper and the ESO aim to use the units in order to achieve the lowest cost. On a few days all action can be taken at a net credit.</p> <p>The report also notes that larger gas/CCGT unit (positive) prices have not been included. These can distort results by lowering the VWA price values and these have been excluded to the report can show the higher prices paid via the BM for the remaining 1000 MW of constraint level.</p>
<b>Could ESO still find the BM better suited to resolving a constraint? (Costs aside).</b>	Yes. Many kinds of data are presented to the ESO Operational Teams as the plan for Day Ahead actions. Even if the wind conditions and constraint ratings strongly indicated that an LCM could help there may be days when localised network constraints, state of the network or system conditions mean that ESO would not be able to make Day Ahead or IntraDay decisions ahead of time and therefore could not open an LCM competition as a prudent, secure System Operator.
<b>Do you plan to update this report?</b>	<p>This is a one-off report intended to help the LCM market discovery. It is being made available because the LCM has only just begun to move towards cost-effective operational pricing and there is no Operationally Priced historical LCM data for new providers to refer to.</p> <p>There are no current plans to update or widen the LCM-driven reporting and further reporting requests should be put in the usual way to the Operational Transparency Forum (OTF).</p>
<b>Is there more granular BM data available?</b>	Yes. See the BM Unit actions published in detail and available in a number of formats via BMRS Reports.
<b>What are the other sources of useful information for ESO action on Constraints?</b>	<p>The ESO Data portal publishes a number of useful resources about constraints, including:</p> <ul style="list-style-type: none"><li>• Day ahead Constraint Forecasts per boundary</li><li>• Thermal Constraints Costs per boundary</li></ul>

Subject	Answer
<b>Got more questions?</b>	Please read the following carefully to ensure your enquiry is handled by the right team
<b>Where can I find ongoing data published by ESO?</b>	<p>ESO publishes data on our Data portal, much of which is regular reporting.</p> <p><u><a href="#">The Data Portal enables you to access all ESO published data, it offers powerful tools to search and query data, and consume data via APIs.</a></u></p>
<b>Where can I ask questions about general market activities and fairness including Constraints?</b>	<p>Please direct questions on ESO transparency to the Operational Transparency Forum (OTF).</p> <p>The OTF also offers presentations covering important themes and updating stakeholders about our activities, providing the opportunity for Q&amp;A.</p> <p><u><a href="#">See also the ESO's Electricity Ten Year Statement and network reinforcement scenarios.</a></u></p>
<b>How can I get more engaged in the LCM in Scotland?</b>	Please contact our partner Piclo via <u><a href="https://www.piclo.energy/profiles/national-grid-eso">https://www.piclo.energy/profiles/national-grid-eso</a></u>
<b>I still have a query for ESO on ESO's use of LCM at the Scottish boundaries.</b>	Please email (Subject LCM Scotland): <u><a href="mailto:box.futureofbalancingservices@nationalgrideso.com">box.futureofbalancingservices@nationalgrideso.com</a></u>

## How to stay involved in ESO consultation

Thank you for your interest in LCM - we hope you can be involved and continue to give feedback.

To give feedback about the *overall approach to thermal constraints* by ESO the Operational Transparency Forum aims to provide an update most weeks and invites questions from industry:

<https://www.nationalgrideso.com/who-we-are/electricity-national-control-centre/operational-transparency-forum>

Questions about all ESO's ancillary services can also be emailed to

Email: [box.futureofbalancingservices@nationalgrideso.com](mailto:box.futureofbalancingservices@nationalgrideso.com)

For onboarding and registration ESO has engaged Piclo to support the process. For LCM and any questions about using the PicloFlex market platform for LCM please contact Piclo. Please register your interest at:

<https://www.piclo.energy/profiles/national-grid-eso>

Please use this to get involved in LCM or register for LCM Trials. Detailed onboarding information is made available as well as training materials and onboarding presentations or webinars for trials participants.

Updates on the LCM service will continue to be made available via this website:

<https://www.nationalgrideso.com/industry-information/balancing-services/local-constraint-market>