

Agenda

1	Introduction, meeting objectives and review of previous actions Grahame Neale - NGESO	10:30 - 10:35
2	Whole system framework BP2 proposal Jon Wisdom - NGESO	10:35 - 10:45
3	Code administrator update Paul Mullen - Code Administrator NGESO	10:45 - 10:55
4	CMP381 Update Sean Donner - NGESO	10:55 - 11:00
5	Data reporting under fixed BSUoS Nick Everitt - NGESO	11:00 - 11:20
6	BSUoS forecasting update Cathy Fraser- NGESO	11:20 - 11:40
7	TNUoS Update Sarah Chleboun & Nick George - NGESO	11:40 - 12:00
8	AOB and Meeting Close Grahame Neale - NGESO	12:00 - 12:15



Review of previous actions

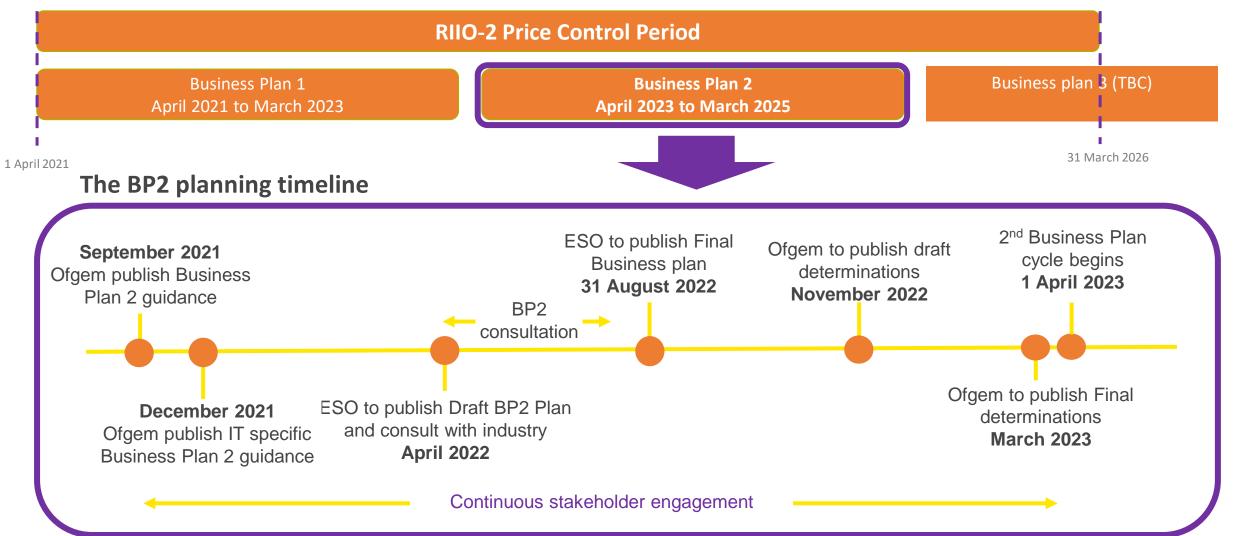
ID	Month	Agenda Item	Description	Owner	Notes	Target Date	Status
21-11	Dec 21	Security Factor	Provide an update on whether SF modelling can be shared.	GN		Jan 22	Open
21-12	Dec 21	ESO Bad Debt Recovery	Update on BSUoS and TNUoS bad debt running total.	JM		Jan 22	Open
21-10	Dec 21		Share proposed approach for NGESO incentive recovery in future years.	NE		Mar 22	Open





Re-cap: the RIIO-2 price control timeline

The RIIO-2 price control timeline



ESO roles reminder

In our first business plan, we used 4 themes against the 3 roles published in Ofgem's roles guidance document

For BP2, we are moving away from using the 4 themes that were present the first RIIO-2 business plan to ensure we align with Ofgem's Roles Guidance document, but **the intention of those themes remains**

First RIIO-2 5-year Business Plan

Role 1 Theme 1

control centre operations:
reliable, secure system
operation, to deliver
electricity when consumers
need it.

Role 2 Theme 2

Market development and transactions: transforming participation in smart and sustainable markets.

Role 3 Theme 3

System insight, planning and network development: unlocking consumer value through competition

Role 3 Theme 4

System insight, planning and network development: driving towards a sustainable, whole energy future.

Second RIIO-2 Business Plan

Role 1

Control centre

operations

Role 3

System

insight,

planning and

network

development

Role 1 activities:

- Operating the system (monitoring and dispatch)
- Coordinating with network operators on short term operational decisions and outage changes
- Short term energy forecasting
- Managing and sharing system data and information
- Restoration and emergency response

Role 2
Market
development
and
transactions

Role 3 activities:

- Long term forecasting, energy scenarios and identification of network needs
- Network Options Assessment
- Delivering competitive system solutions and early network competition
- Managing connections and access to the network
- Whole system process development
- Restoration and emergency response planning
- Business change strategy & innovation

Role 2 activities:

- · Balancing and ancillary service market design
- Service procurement and settlement
- Revenue collection
- Policy advice and delivery of market framework changes
- Code administrator
- EMR Delivery Body



Potential new activity: Whole Systems Frameworks

We recognise that the frameworks that govern our market were established when new and innovative actors were not considered.

- The ESO sees that a no regrets activity would be to establish a new whole system market policy team to consider cross-cutting issues and establishing an ESO position for their development. Their role will be to consider and suggest solutions for:
 - Changes to licenses, regulations, and codes on behalf of other market bodies as well as the ESO.
 - Consideration of OMW markets within the codes, licences and market frameworks and the implications of these for costs and efficient economic signals.
 - Consideration of the effect of future non-network solutions on the frameworks.
 - Consideration of changes required to market frameworks to facilitate DSO and whole system outcomes between the ESO and DNO's.

What would success look like?

- Recommendations on the appropriate structure of electricity market frameworks
- These should facilitate the net zero transition, increase value to consumers and enable efficient participation in all frameworks by existing and new categories of participants.

Questions?

Please get in touch with any feedback or questions via

jon.wisdom@nationalgrideso.com

Code Administrator Update

Paul Mullen - Code Administrator



Authority decisions since last TCMF				
Modificati	What this does?	Decision Date		
on				
CMP381	Seeks to set a £/MWh cap on BSUoS from 1 January 2022 until 31 March 2022. The additional BSUoS costs above the cap would be deferred to the 2022/23 charging year.	Decision was received on 14 January 2022 to implement WACM4. WACM4 proposes a £20/MWh cap on BSUoS from the Ofgem Implementation Date until 31 March 2022 and the limit the BSUoS costs could be deferred to is £200m). This was implemented from the first settlement period (i.e. 00:00 - 00:30) of 17 January 2022.		



On 4 May 2021 (last updated 9 December 2021), Ofgem published a table that provides the expected decision date, or date they intend to publish an impact assessment or consultation, for code modifications/proposals that are with them for decision here

Modification	What this seeks to achieve?	Decision Date / Anticipated Decision Date
CMP335/336 and CMP343/340	Proposes the methodology for Transmission Demand Residual charges to be applied only to 'Final Demand' on a 'Site' basis, as well as how to treat negative locational charges and the application of any charging bands.; CMP335/336 looks at the Transmission Demand Residual billing and consequential changes	At CUSC Panel on 26 January 2022, Ofgem confirmed that no they are seeking to make their final decision by end March 2022.
CMP292	Introduces a cut-off date for changes to the Charging Methodologies	CMP292 has an expected decision date of TBC in 2022 (previously 30 June 2021 and latterly 30 September 2021) as Ofgem consider this to be low priority.
CMP371	Seeks to update CUSC Section 8 such that it is possible, under one CUSC Modification Proposal, to change CUSC provisions relating to Connection Charges, and Use of System Charging Methodologies alongside non-charging provision	28 February 2022

On 4 May 2021 (last updated 16 September 2021), Ofgem published a table that provides the expected decision date, or date they intend to publish an impact assessment or consultation, for code modifications/proposals that are with them for decision here

Modification	What this seeks to achieve?	Decision Date / Anticipated Decision Date
CMP308	Seeks to modify the CUSC to better align GB market arrangements with those prevalent within other EU member states by removing BSUoS charges from Generation.	
CMP368/369	CMP368 seeks to give effect to the Authority determination within the CMP317/327 decision published on the 17 December 2020 to amend the definition of Assets Required for Connection, create new definitions of 'GB Generation Output' and define Generator charges for use in the Limiting Regulation range calculation. To facilitate the change, CMP369 proposes to update the legal text relating to 'Generation Output' detailed in the tariff setting methodology within Section 14.14.5 and the Ex-Post Reconciliation within Section 14.17.37 of the CUSC to align with the updated definitions introduced by CMP368.	On 24 November 2021, Ofgem sent a letter which formally confirms that Ofgem intend to wait until judgment has been issued in the Judicial Review before reaching a decision in respect of CMP368 and CMP369. Ofgem's latest expected decision dates table (published on 9 December 2021) confirms that there is currently no firm date for a decision and no further update was

Modification	What this seeks to achieve?	Decision Date / Anticipated Decision Date
CMP377	Seeks to provide clarity on how the BSUoS charging methodology is described in Section 14 of the CUSC. The four areas being addressed are: Covid-19 cost recovery calculations, capitalisation of defined terms in CMP373 legal text, clarifying storage import terminology and general housekeeping	Final Modification Report was sent to Ofgem 6 October 2021. Ofgem's latest expected decision dates table (published on 9 December 2021) confirms that there is currently no firm date for a decision and no further update was provided at Panel on 26 January 2022.
CMP328	Seeks to put in place an appropriate process to be utilised when any connection triggers a Distribution impact assessment.	The Final Modification Report was sent to Ofgem on 10 November 2021 and Ofgem confirmed at November 2021 Panel that no decision would made on this until they have received the equivalent STC Modification (expected to be raised to STC's March 2022 Panel). Ofgem's latest expected decision dates table (published on 9 December 2021) confirms that there is currently no firm date for a decision.

In Flight Modification Updates



Other key Modification Updates

Modification	What this does?	Latest
CMP298	Seeks to introduce the process to facilitate aggregated assessment of relevant and collectively relevant embedded generation into the CUSC, which will sit alongside the current Statement of Works process.	January 2022 Panel agreed that the Workgroup had met its Terms of Reference. The Code Administrator Consultation was issued on 31 January 2022 and will close 5pm on 21 February 2022.
CMP300	Seeks to improve the cost reflectivity of the Response Energy Payment ("REP") for Balancing Mechanism Units ("BMUs") with low or negative marginal costs, as a consequence of having a Contract for Difference ("CfD")	2nd Code Administrator Consultation was issued on 17 January 2022 and will close 5pm on 16 February 2022 — particularly interested to hear from Biomass parties. Draft Final Modification Report will then be presented to February 2022 CUSC Panel.



Other key Modification Updates

Modification	What this does?	Latest
CMP361/362	Seeks to introduce an ex ante fixed volumetric BSUoS tariff set over a total fix and notice period of 14 months. This tariff would be split with a different price for the summer and winter periods. This will deliver the recommendations of the Second BSUoS Task Force Modification. CMP362 introduces and updates required definitions into CUSC section 11 from CMP308 and CMP361.	January 2022 Panel noted proposed legal text changes and agreed some of these need to be consulted on. There will be a 5 working day Code Administrator Consultation (from 3 February 2022 to 10 February 2022) ahead of the Draft Final Modification Report being re-presented to February 2022 CUSC Panel.
CMP380	Removes any gender specific references or terminology within the CUSC.	January 2022 Panel agreed unanimously that CMP380 better facilitated the CUSC objectives than the current CUSC. Appeals Window will run from 9 February 2022 to 5pm 2 March 2022 and if no appeals are received in this window, this will be implemented into CUSC on 9 March 2022.
CMP382	Amend the terminology used in CUSC Section 14 to align with the definitions of 'Financial Year' and 'Business Day' within CUSC Section 11'	January 2022 Panel agreed that CMP382 should follow self-governance route and proceed to Code Administrator Consultation. Code Administrator Consultation planned to be issued on 10 February 2022 and will close 5pm on 3 March 2022.



Other key Modification Updates – Timeline changes

Modification	What this does?	Latest
CMP304	Seeks to enable reforms to commercial Reactive Power services that, in the Proposer's view would create new opportunities for providers	Workgroup Report to be presented to April 2022 rather than March 2022 Panel as more time required to issue Workgroup Consultation (it was 31 January 2022 but now 15 February 2022) and resolve actions from 15 December 2021 meeting
CMP376	Seeks to implement the queue management process into CUSC including introducing a right for the Electricity System Operator (ESO) to terminate contracted projects which are not progressing against agreed milestones	Workgroup Report to be presented to June 2022 rather than April 2022 Panel as additional Workgroups needed to understand the Original solution
CMP379	Seeks to clarify how TNUoS demand zones and therefore TNUoS demand tariffs and charges should be determined for transmission-connected demand users who connect at the boundaries of multiple DNO areas	Workgroup Report to be presented to July 2022 rather than May 2022 Panel as needed to seek additional Workgroup nominations

For updates on all "live" Modifications please visit "Modification Tracker" at:

https://www.nationalgrideso.com/industry-information/codes





CUSC 2022 - Panel dates

CUSC	(TCMF) CUSC Development Forum	Modification Submission Date	Papers Day	Panel Dates
January	6	11	18	26
February	3	10	17	25
March	3	10	17	25
April	7	12 (Taking Bank holidays into account)	21	29 (Face to Face Meeting)
May	5	12	19	27
June	31/05 (2nd is bank holiday)	9	16	24
July	7	14	21	29 (Face to Face Meeting)
August	4	11	18	26
September	8	15	22	30
October	6	13	20	28 (Face to Face Meeting)
November	3	10	17	25
December	24/11	1	8	16



CMP381 – Deferring BSUoS costs

- Following Ofgem's approval of CMP381 on 14th January 2022, the ESO began implementation from 17th January
- CMP381 sets a £20/MWh cap on the BSUoS Price for each half-hourly Settlement Period (SP) while this mod applies
- This modification will apply until the sooner of 31st March 2022 or if £200m (including Financing costs) is deferred under this scheme
- Subject to Ofgem's approval, any deferred costs will be recovered via BSUoS charges during FY 2022/23
 - There is a <u>Licence consultation</u> on the proposal of updating the ESO's Licence to facilitate this (closes 25th Feb)
 - As this Licence change won't be completed before 1st April 2022, an urgent CUSC mod will be required to update the dates for which recovery takes place (i.e., starting from a date later than 1st April 2022, until 31st March 2023)
- As of 2nd February 2022, £29,869,448.16* has been deferred with 25 SPs exceeding the £20/MWh cap
 - These SPs occurred in two 'spikes' 16 SPs were above the cap on 24th Jan 2022 and 9 SPs on 25th Jan 2022
- Recovery of these deferred costs would equate to an increase to BSUoS Charges of £81,834.10* per day
 - This is based on starting recovery from 1st April 2022, just to give an indicative value
- These results have been published on our <u>website</u> we will continue to publish updated data each day
- If you require further information on CMP381 or other BSUoS related matters, please contact the BSUoS team at BSUoS.queries@nationalgrideso.com



BSUoS Billing Reporting

Current Billing Documents



Invoice – PDF

Backing Sheet – PDF Notifications – PDF

SFTP

BPA Report – PDF, CSV, DAT & PRT

BCR Report – PDF, CSV, DAT & PRT





Web Prices – XLS

Web Prices CMP381 – XLSX

BCR Report – PDF, CSV, DAT & PRT

Note: Currently we publish Web prices and BCR reports to the Website and ESO portal, in March we will begin publishing these solely to the ESO portal.







With potential changes in the methodology are the above documents still fit for purpose and if changes would be beneficial, what changes?

For any feedback please email the team at bsuos.queries@nationalgrideso.com





BSUoS Forecasting Update

Balancing Services Use of System (BSUoS) charges are a tariff on users of the network to recover the costs we incur balancing the system.

national gridESO

We are committed to continually improving our forecasting and to provide greater insight to the market around changing BSUoS costs.

- We have been publishing more detailed BSUoS forecasts in recent years but we recognise that recently these have not been providing sufficient insight into costs and ultimately the charges system users will face.
- In our 5 point plan to manage constraints on the system we committed to improve transparency and insight into our forecasts of the costs incurred managing flows on the network.

To address these challenges we have now published a forecast based on a new improved methodology.

- This model moves away from the previous BSUoS forecasting linear model to a more comprehensive probabilistic model.
- It takes advantage of improved data inputs and we believe it will provide better insight into BSUoS costs over both short and longer timescales.
- We plan on making incremental improvements to the modelling and datasets included, including the 24month ahead Constraint Limit dataset. This will provide increased accuracy in our modelling forecast inputs.

We want to provide clarity to the changes for our customers and other users of the forecast.

• Please continue to feedback to us on your expectations in relation to the forecasts, this helps us present the information in a way that helps you and informs our future communications.

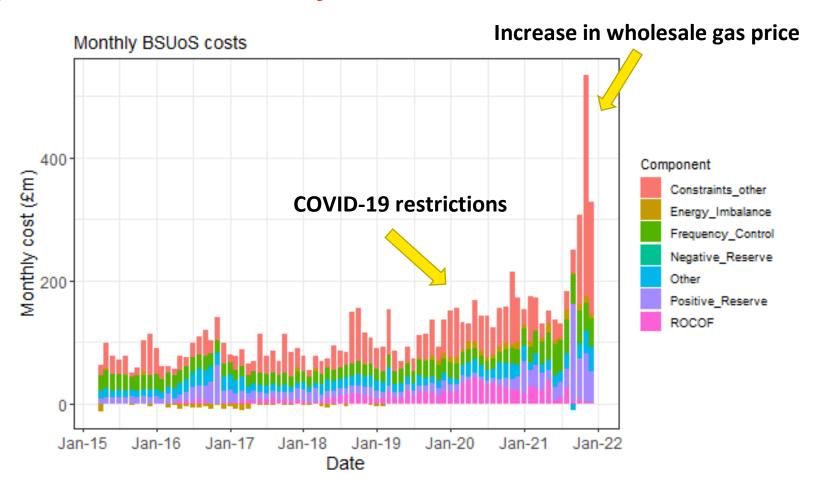
We would note that CMP381 has been approved from the 17th January 2022. This will place a cap of £20/MWh on BSUoS charges with any amounts above that being rolled into the 2022/23 charging year up to a maximum of £200m. The impact of this is not included in this month's forecast.

Balancing Cost Forecast Modelling Overview

Our balancing cost forecast development sought to produce a forecast with explanatory power, which has explicit drivers capturing what we know about future changes to the system and acknowledges the level of uncertainty driven by chance or unforecastable events and conditions.

- To forecast the overall costs, we model the different component costs, each with different drivers and magnitude of variability. Then aggregate to determine the total control room balancing cost.
 - The forecast is at monthly resolution with a horizon of up to 36 months.
- To forecast for a wide timescale, we use a blended output approach. This combines the output of different models capturing the variability over different time scales.
 - For shorter time scales the forecast is mostly dependent on time-series modelling using historic costs modified to reflect future conditions, and explanatory variables to capture weather and wholesale electricity price variability.
 - For longer time scales a forecast is made based on the central scenario of network and market development.
 - Monte Carlo techniques are then employed to find the variability around the central forecast, capturing the inherent variability driven by the explanatory variables and the uncertainty in the scenarios

Balancing Cost Variability



Modelling Variability

Drivers of variability

We first identify the main drivers of cost variability.

- Wholesale electricity costs
- Government and Regulatory policy
- Network changes
- ESO Policies
- Weather variability
- Network and generator outages
- Large unexpected events

Impact of variability

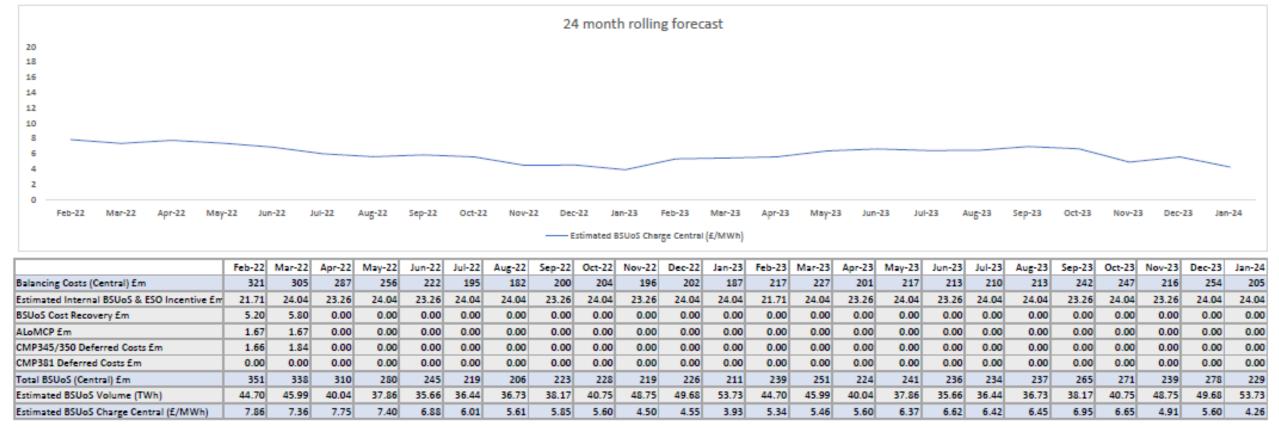
- Weather impacts:
 - High wind output leads to higher constraint costs
- Major outages of generators, interconnectors or transmission equipment lead to higher management costs
- Wholesale electricity costs
 - Prior to recent increases we had made an assessment of reasonable variation
 - Subsequent to the gas price surge we have reassessed
- **Network improvements** alter constraint costs particularly
- Further ahead, uncertainty in future regulatory changes or government and ESO policies affect potential future costs

Drivers of variability

Driver	0-1 year	1-2 years	2-3 years	
Wholesale electricity price	Variability due to weather and geopolitical factors			
Government Regulation and Policy	Known policies and details	Range of policies and regulation possible		
Network Changes Network configuration known Network upgrades known but con		ompletion date / delays unclear		
ESO policies	ies Known policies and details Broad policy view, details tbc		Range of policies but no decision made	
Weather variability Weather variability: predictability appr		tability approximately constant ac	ross all relevant lead times	
Network and generator outages	Planned outages known	All outages unknown		
Large unexpected events	nts Can occur at any time			

BSUoS Forecast for Feb-22





Our forecasts available at the ESO Data Portal:

https://data.nationalgrideso.com/balancing/monthly-balancing-services-use-of-system-bsuos-forecast-reports



Summary of BSUoS Forecasting Modelling improvements

We are committed to continually improving our forecasting and to provide greater insight to the market around changing BSUoS costs.

 There are several drivers of variability inherent in forecasting BSUOS and each brings with it impacts on the overall variability of the forecast.

We have now published a forecast based on a new improved methodology.

- This model moves away from the previous BSUoS forecasting linear model to a more comprehensive probabilistic model.
- It takes advantage of improved data inputs and we believe it will provide better insight into BSUoS costs over both short and longer timescales.
- We plan on making incremental improvements to the modelling and datasets included, including the 24month ahead
 Constraint Limit dataset. This will provide increased accuracy in our modelling forecast inputs.

BSUoS Forecast Improvement Timescales

January 2022

Stakeholder engagement through OTF and Elexon circular

Review and act on feedback received

w/c 24 January
Publish February 2022
forecast using improved
methodology

OTF deep dive on February forecast values and model

February 2022

Publish March 2022 forecast

Modelling development & enhancement:

Inclusion of Constraint Cost dataset as model input March 2022

Publish April 2022 forecast

Consultation launches for balancing cost model approach and methodology

This to inform further developments of modelling for BSUoS tariff setting

September 2022

Model development completed

Fixed BSUoS tariffs published ahead of April 2023 implementation

Modelling development & enhancement

For any feedback on our approach and timescales for change please get in touch: .box.NC.Customer@nationalgrideso.com

22/23 Final TNUoS Tariffs & 23/24 Forecast Timetable

Sarah Chleboun

Revenue Tariff Lead



TNUoS Tariffs for 2022/23

2022/23 Tariffs

- On 31st January 2022 we published the Final TNUoS Tariffs for 2022/23, which are applicable from 1st April 2022.
- They can be found at: https://www.nationalgrideso.com/industry-information/charging/transmission-network-use-system-tnuos-charges
- Please note that the Judicial Review of CMA/Ofgem decision on CMP317/327 has not yet concluded. It is possible that we will need to recalculate the 2022/23 tariffs once the outcome is published.

Webinar

- We will host a webinar to discuss the tariffs and answer your queries at <u>11am on 15th February</u>.
- To register for the webinar please go to: https://www.eventbrite.co.uk/e/tnuos-january-final-tariffs-webinar-tickets-259488897277



Forecasting for 2023/24 onwards

• We have published the timetable for our 2023/24 tariffs forecast publications as below:



 We may review this forecast timetable once the outcome of the judicial review has been published, depending on its impact. We will engage with you on any changes required.

Get in touch:

• If you have any suggestions for forecasting sensitivities to include in the 5 Year View, please get in touch: TNUoS.queries@nationalgrideso.com



2021/22 TNUoS Tariff Error

Nick George

Revenue Manager – Billing and Charging



2021/22 TNUoS Tariff Error – Cause of the Error

- During 2022/23 tariff setting, an error was identified with Moyle Interconnector capacity, which has been corrected in final 2022/23 tariffs published
- The model used to set the 2021/22 final tariffs has been checked, and the same issue was found.
- For 2021/22 final tariffs, Generator and Interconnector capacities were based on the published registers at 31 October 2020. During FY21/22, Moyle was due to start at 80MW, increasing to 250MW, and then reducing to 160MW. The value in the charging model was 490MW (the sum), whereas it should have been 250MW (the maximum).
- Caused by an error in the tool that extracts data from the Interconnector Register. There are additional checks built-in to the process, but unfortunately these didn't pick up the error.
- Moyle was the only interconnector with staged capacity. A check has also been done of generators with staging on TEC Register, and these were all modelled correctly.
- The tool has been corrected, and processes reviewed and tightened to avoid this issue happening again.

 nationalgridESO

2021/22 TNUoS Tariff Error – CUSC Provisions

- Such an error is covered by "manifest error" provision in CUSC paragraphs 14.17.32 -14.17.35 and 14.18.33
- A manifest error shall be defined as any of the following:
 - an error in the transfer of relevant data between the Transmission Licensees or DNOs;
 - an error in the population of the Transport Model with relevant data;
 - an error in the function of the Transport Model; or
 - an error in the inputs or function of the Tariff Model.
- A manifest error is considered "material" on a User when causes
 - an error in a User's TNUoS tariff of at least +/-£0.50/kW; or
 - an error in a User's annual TNUoS charge in excess of +/-£250,000
- Only those Users who have experienced a "material" error are reconciled
- A manifest error shall only be reconciled if it has been identified within the charging year for which the error has an effect

 nationalgridESO

2021/22 TNUoS Tariff Error – Impact of Error

- Overall revenue collection is not affected, and does not affect split of revenue collection between Suppliers and Generators
- No User saw a tariff change of more than +/- £0.50/kW
- No Supplier Users saw a change in the TNUoS charges in excess of +/- £250k
- Three Generator Users have seen a change of more than +/- £250k (some up, some down). In each case was approx. 1% of their charges, and all less than +/-£1m.
- In accordance with CUSC 14.17.32, only those three generators will be reconciled, not any other User.
- Those three generators have been contacted and the change will be handled through the end-of-year generator reconciliation



AOB & Close

