

Meeting 124

31 May 2022

**Transmission Charging  
Methodologies Forum and  
CUSC Issues Steering Group**

**nationalgrid**ESO

# Agenda

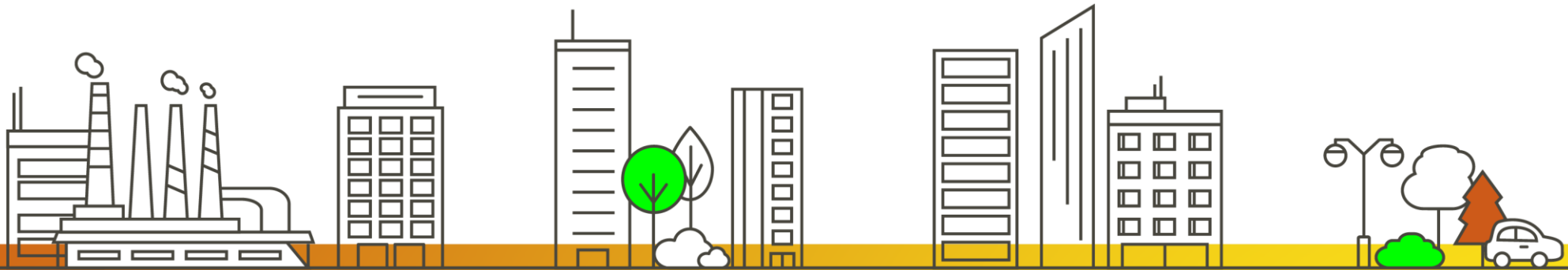
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|---|--|---------------|
| 1 | Introduction, meeting objectives and review of previous actions <b>Claire Huxley - NGESO</b>   | 10:30 - 10:35 |
| 2 | Code Administrator update <b>Paul Mullen - Code Administrator NGESO</b>  | 10:35 - 10:45 |
| 3 | BP2 Submission and Consultation update <b>Amy Brooks - NGESO</b>   | 10:45 - 11:05 |
| 4 | Code Modification Proposals: <ul style="list-style-type: none"><li>• Using Imports and Exports to Calculate Annual Load Factor for Storage</li><li>• Removing generation charges from storage operators in positive TNUoS zones</li></ul> <b>Robert Newton - Zenobe Energy</b> | 11:05 - 11:35 |
| 5 | TDR modifications update <b>Grahame Neale - NGESO</b>  | 11:35 - 11:50 |
| 6 | TCMF and CISG meeting survey results and next steps <b>Harvey Takhar - NGESO</b>   | 11:50 - 12:00 |
| 7 | AOB and Meeting Close <b>Claire Huxley- NGESO</b>  | 12:00 - 12:15 |
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# Review of previous actions

ID	Month	Agenda Item	Description	Owner	Notes	Target Date	Status
22-2	May 22	AOB	TCMF face to face meeting survey	Andrew Hemus	Harvey to provide an update on survey results	June	Open
22-3	May 22	AOB	Advise on the training sessions for 'TNUoS Transport & Tariff Model'	Matthew Wootton	Pre-recorded training will be published on the website. Topic specific small drop in sessions will be offered soon	June	Open
22-4	May 22	BSUoS and TNUoS Declaration update	Feedback on declarations	Grahame Neale		July	Open

# Code Administrator update

**Paul Mullen - Code Administrator**



# Authority Decisions Summary (as at 30 May 2022)

## Authority decisions since last TCMF

Modification	What this does?	Decision Date
<b>CMP368</b> / <b>CMP369</b>	Updating Charges for the Physical Assets Required for Connection, Generation Output and Generator charges for the purpose of maintaining compliance with the Limiting Regulation (CMP368) and Consequential changes to Section 14 of the CUSC (CMP369)	<b>Rejected by the Authority on 20 May 2022</b> as they concluded that none of the proposals relating to the Connection Exclusion can lawfully be approved



# Authority Decisions Summary (as at 30 May 2022)

On 4 May 2021 (last updated 24 May 2022), 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
<b>CMP292</b>	Introduces a cut-off date for changes to the Charging Methodologies	<b>TBC in 2022 - Ofgem still consider this to be low priority.</b>
<b>CMP298</b>	Process for aggregated assessment of Distributed Generators that impact (or may impact) on the National Electricity Transmission System.	<b>30 November 2022</b>
<b>CMP300</b>	Cost reflective Response Energy Payment for Generators with low or negative marginal costs as a consequence of having a Contract for Difference (“CfD”)	<b>16 June 2022 as per update at CUSC Panel on 27 May 2022</b>

# Authority Decisions Summary (as at 30 May 2022)

Modification	What this seeks to achieve?	Decision Date / Anticipated Decision Date
<b>CMP328</b>	Establish the process when any connection triggers a Distribution impact assessment.	<b>30 November 2022</b>
<b>CMP361/ CMP362</b>	Introduce an ex-ante fixed volumetric BSUoS tariff set over a total fix and notice period of 14 months (CMP361) and associated definition changes (CMP362)	<b>24 June 2022</b>
<b>CMP371</b>	Allow Proposers to raise one CUSC Modification Proposal to seek changes to both charging and non-charging provisions within CUSC	<b>17 June 2022 (previously 3 May 2022)</b>
<b>CMP391</b>	Definition of “Charges for Physical Assets Required for Connection” which reflects the Limiting Regulation	<b>Within two Business Days following receipt of the Final Modification Report (issued 30 May 2022)</b>

# In Flight Modification Updates





# Other key Modification Updates

Modification	What this does?	Latest
<b>CMP286/287</b>	Seeks increased notice of the Target Revenue (CMP286) and inputs (CMP287) used in the TNUoS Tariff Setting Process	Workgroup Report to be presented to July 2022 Panel
<b>CMP288/289</b>	Explicit charging arrangements for customer delays and backfeeds iro transmission connections	<p>CMP288 Workgroup Report to be presented to June 2022 Panel.</p> <p>CMP289 proposed to be withdrawn - industry have until 5pm on 6 June 2022 to express their wish to become the new Proposer. If no-one expresses a wish to become the new Proposer by 5pm on 6 June 2022, Panel, on 24 June 2022, will be asked under CUSC 8.16.10(b) to agree to the withdrawal of CMP289.</p>
<b>CMP315/375</b>	Reviewing the calculation of the Expansion Constant & Expansion Factors.	Workgroup held 25 May 2022 to discuss the Workgroup Consultation responses and agreed that analysis is required as a priority - this will be presented to a Workgroup on 30 June 2022. As a result, the Workgroup Report will be presented to September 2022 rather than July 2022 Panel - the timeline will be presented to June 2022 Panel for their approval.

# Other key Modification Updates

Modification	What this does?	Latest
<b>CMP316</b>	Charging arrangements for Generation sites which comprise multiple technology types within one Power Station (“co-located”)	Workgroup Report to be presented to August 2022 Panel.
<b>CMP330/374</b>	Allowing new Transmission Connected parties to build Connection Assets	Legal Text and Implementation issues being worked through and timeline changes being considered before being presented to Panel.
<b>CMP363/364</b>	TNUoS Demand Residual charges for transmission connected sites with a mix of Final and non-Final Demand (CMP363) and definition changes (CMP364)	CUSC Panel on 27 May 2022 agreed that a further scenario needs to be explored before the Workgroup Report can be signed off. This is specifically the metering solution for a site with generation and / or substantial on-site consumption or storage to demonstrate that it is technically feasible to apply CMP363 at such generation and storage sites. The expectation is that this will be considered over the next couple of weeks and the Workgroup Report will be re-presented to June 2022 Panel.
<b>CMP382</b>	Replacement of “charging year” and “Working Day” with the already defined “Financial Year” and “Business Day”.	Implemented into CUSC on 9 May 2022.

# Other key Modification Updates

Modification	What this does?	Latest
<b>CMP385</b>	Review of CUSC Section 15 (User Commitment)	Proposer to further develop CMP385 before presenting this and/or additional Modifications to a subsequent meeting of the CUSC Panel.
<b>CMP388</b>	Transmission Demand Residual (TDR) minor clarifications	Code Administrator Consultation closed 27 May 2022 with 2 non-confidential responses received. Draft Final Modification Report to be presented to June 2022 Panel for recommendation vote.
<b>CMP389</b>	Changes related to Transmission Demand Residual (TDR) band boundaries	Code Administrator open to 5pm on 8 June 2022.
<b>CMP390</b>	Updating Connection application forms to enable disclosure of information to government for purposes of the National Security and Investment (NSI) Act 2021	Code Administrator Consultation closed 30 May 2022 with 1 non-confidential response received. Draft Final Modification Report to be presented to June 2022 Panel for recommendation vote.
<b>CMP392</b>	TNUoS Methodology in accordance with the Limiting Regulation	Proposer has requested Urgent treatment; Panel on 30 May 2022 recommended by majority that not Urgent. Ofgem will now decide by 5pm on 7 June 2022 whether or not to grant Urgency.

For updates on all “live” Modifications please visit our “Modification Tracker” [here](#)

# 2022 Dates



## 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



# BP2 Submission and Consultation update

**Amy Brooks**



# Draft ESO RIIO-2 Business Plan 2

(1 April 2023 – 31 March 2025)

Business Plan 2  
Consultation Update

Grid Code Development Forum

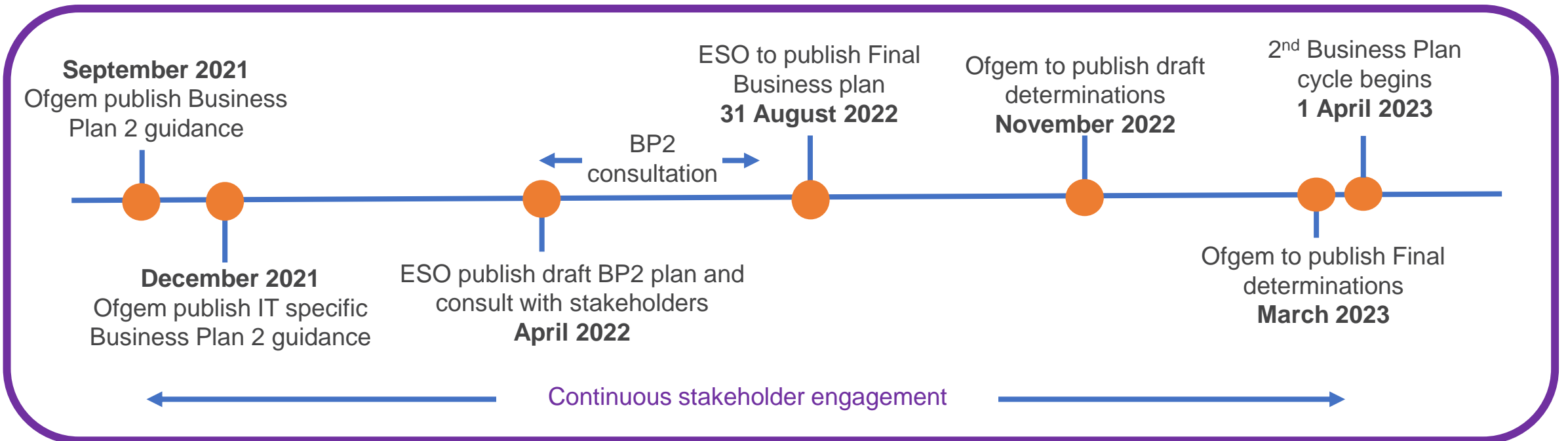
1 June 2022

# Re-cap: the RIIO-2 price control timeline

## The RIIO-2 price control timeline



## The BP2 planning timeline





# Business Plan Overview





# Our focus for the BP2 period

The new themes in our external environment and increased system complexity mean we've rethought our activity in the following ways:

**1** Brand new activities to support the transition to net zero e.g. Early Competition and Offshore Coordination

**2** Increased activity for our teams resulting from increased decentralisation of the energy sector

**3** Activity from BP1 replanned or expanded to deal with growing system complexity





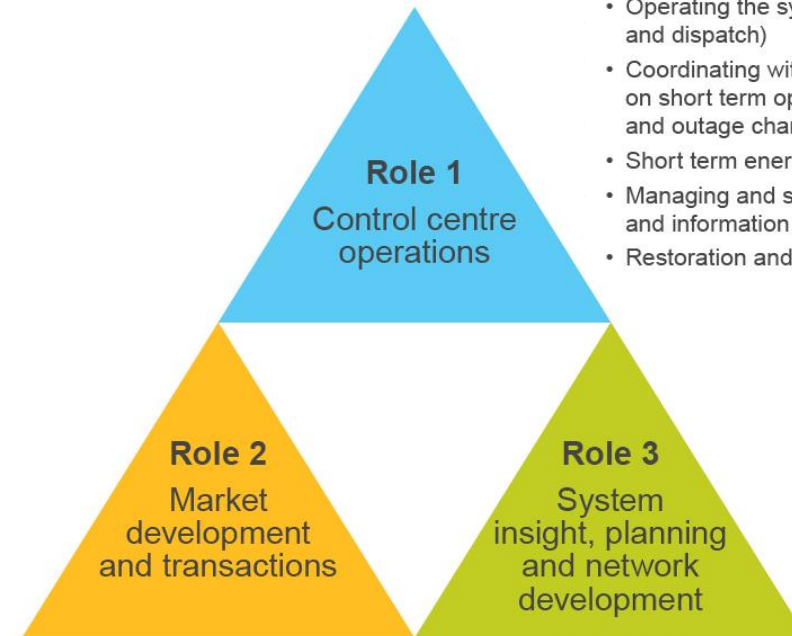
# BP2 activity - key takeaways

- Our three ESO roles are the same for BP2
- Significant number of new and changed activities for each role:

## 5 new activities:

- Market Monitoring
- Data and analytics operating model
- Net Zero Market Reform
- Role in Europe
- Offshore Coordination/Network Planning Review

## And 12 new sub-activities



### 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 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

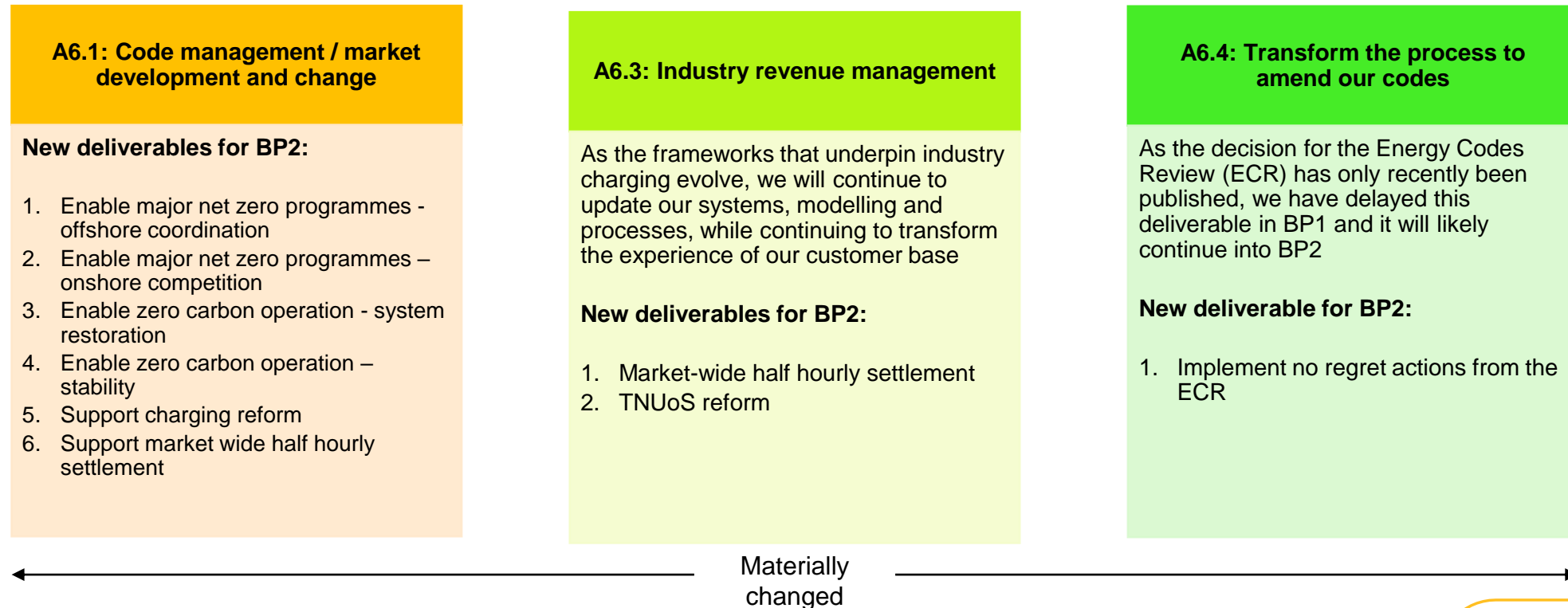
### Role 3 activities:

- 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

# Possible areas of interest for TCMF stakeholders (1)

## A6: Develop code and charging arrangements that are fit for the future:

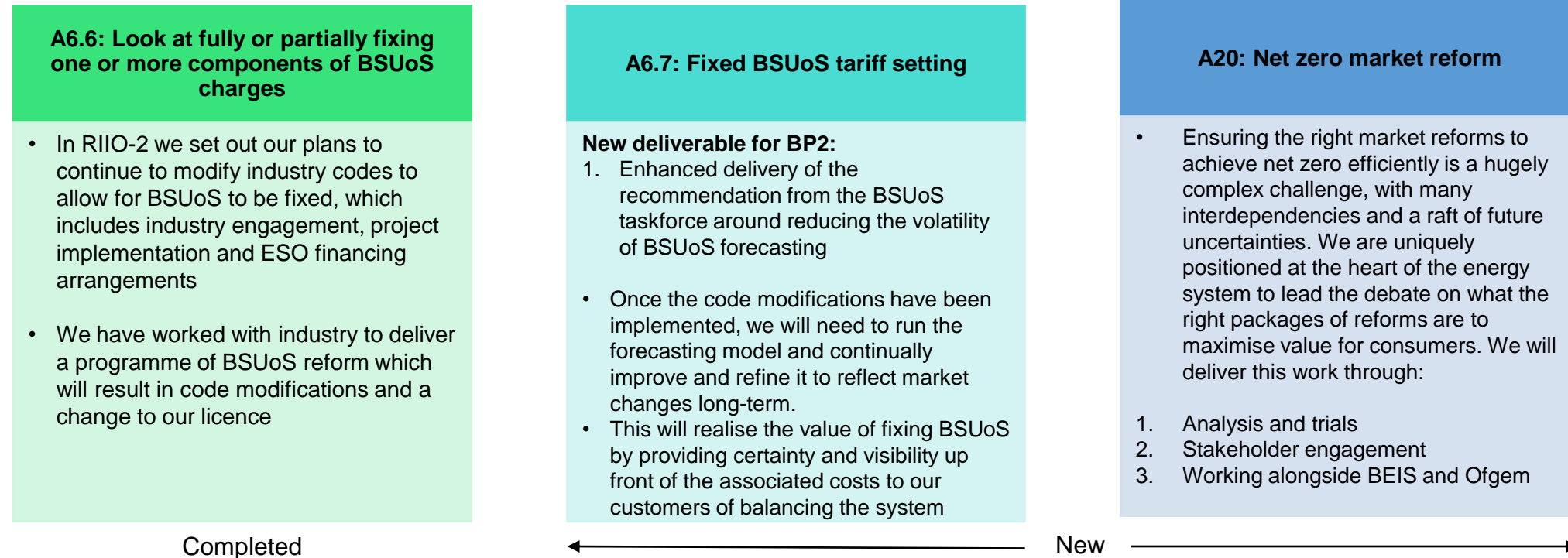
It is crucial that we continue to reform the codes and frameworks that govern our market. These arrangements establish the commercial and technical parameters within which market participants operate. We will also continue to develop and deliver sustainable improvement in our relationship with Europe through the requirements of the TCA, which will now be covered under the new cross-role activity Role in Europe. We will develop new tools and processes to ensure we continue to recover transmission system costs and adapt to the demands of the changing market and wider industry reforms.



## Possible areas of interest for TCMF stakeholders (2)

### A6: Develop code and charging arrangements that are fit for the future:

It is crucial that we continue to reform the codes and frameworks that govern our market. These arrangements establish the commercial and technical parameters within which market participants operate. We will also continue to develop and deliver sustainable improvement in our relationship with Europe through the requirements of the TCA, which will now be covered under the new cross-role activity Role in Europe. We will develop new tools and processes to ensure we continue to recover transmission system costs and adapt to the demands of the changing market and wider industry reforms.



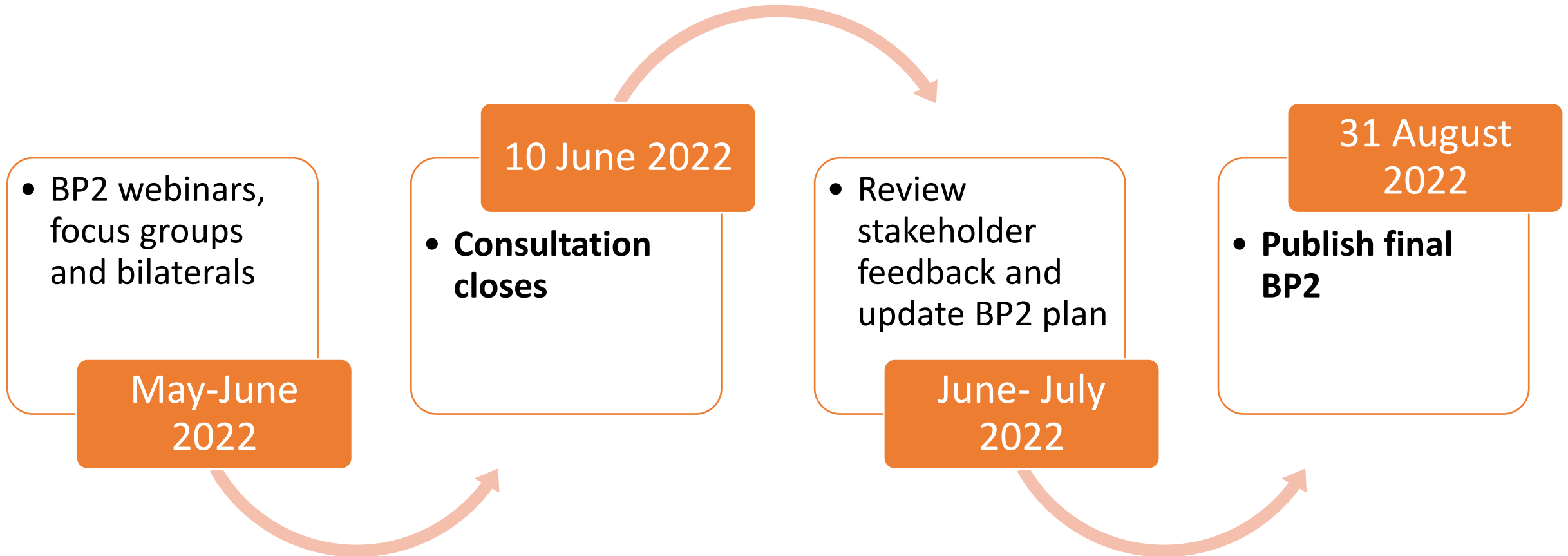


# BP2 Formal Consultation





## Next steps towards publishing our BP2 plan





# How to get involved

Consultation is open until Friday 10<sup>th</sup> June

Consultation document and questions available on [ESO website](#)

You can sign up to our mailing list, email your consultation responses / queries or set up a meeting with us through [box.ESO.R1102@nationalgrideso.com](mailto:box.ESO.R1102@nationalgrideso.com)



# Any Questions?





# Code Modification Proposals:

- Using Imports and Exports to Calculate Annual Load Factor for Storage
- Removing generation charges from storage operators in positive TNUoS zones

**Robert Newton – Zenobe Energy**





**Storage and  
TNUoS Code  
Modifications**

**ZENOBĚ**



## Summary



### **Draft Code Modifications**

1. 'Using imports and exports to calculate annual load factor for storage'
2. 'Removing generation charges from storage operators in positive TNUoS zones'

### **Research**

- Independent consultant commissioned to model impacts of mods
- Ongoing engagement with stakeholders including Electricity Storage Network

We intend to submit mods ahead of 9 June for CUSC Panel meeting on 24 June.

Envisioned implementation date: April 2024

### **Impacted Parties**

- Storage Operators, Generators, Transmission Owners, ESO, Parties Liable for TNUoS



## Context: Storage and the TNUoS Methodology



### The current methodology

- Last substantial updates in 2014 under Project TransmiT
- Tariffs are based on analysis of modelling that did not consider system impacts of storage build
- Generation mix has transformed since 2014

### 'Conventional Carbon' Generation Classification

- Battery storage added to classification in 2019/20
- Peak + (ALF x year round shared) + (ALF x year round not shared) + residual
- A tariff reflecting output and not input unduly discriminates against storage

### Inconsistency with ACOs

- **Competition:** Inaccurate economic signal creates a barrier to entry
- **Cost-reflectivity:** Charges do not reflect benefits of storage above constraints
- **Developments in licensee business:** Charges do not reflect changes to generation mix as more storage connects. Nor do they reflect the utility of storage in achieving net zero emissions by 2050.



## Modification 1: 'Using import and export capacity to calculate annual load factor for storage'



### Defect:

The Transmission Network Use of System (TNUoS) charging methodology currently includes battery storage and pumped storage in the 'Conventional Carbon' generation classification. As such, battery storage and pumped storage assets face the Conventional Carbon generation tariff: Peak + (Annual Load Factor [ALF] x year-round shared) + (ALF x year-round not shared) + generation adjustment.

Using only output to calculate ALF for pumped storage and battery storage does not reflect how storage assets can import power, as well as export it. Consequently, the TNUoS methodology does not accurately reflect how storage assets interact with the energy system.

## Modification 1: 'Using import and export capacity to calculate annual load factor for storage'



### **Solution:**

This modification proposes to alter the definition of ALFs with respect to storage. All storage that has booked TEC (i.e., pumped and battery, as currently defined) would face an ALF calculation based on net system usage, and not export only. Over time, it is anticipated that other storage technologies will also be included.

Storage technologies will face a TNUoS tariff with a bespoke Annual Load Factor (Storage ALF) calculation, taking into account imports as well as exports. We propose that the tariff will read: peak + (Storage ALF x year round shared) + (Storage ALF x year round not shared).

## Modification 2: ‘Removing generation charges from storage operators in positive TNUoS zones’



### **Defect:**

Transmission-connected storage operators have a net neutral annual load factor. As such, their impact on the system differs from that of exporting generators.

Current transmission charges are designed to reflect the impacts of exporting generators. They do not register how storage assets interact with the energy system in technologically and locationally specific ways. The current TNUoS regime is therefore resulting in unduly discriminatory conditions for storage operators.

Storage brings a range of benefits to the transmission system. However, the current charging regime does not incentivise operators to deploy where the system need for storage is strongest: in generation-constrained areas. In fact, transmission charges in positive zones provide a signal that actively disincentivises storage operators from deploying in these zones.



## Modification 2: 'Removing generation charges from storage operators in positive TNUoS zones'



### **Solution:**

We propose to incentivise storage operators to locate assets in generation-constrained regions by exempting pumped storage and battery storage assets in positive TNUoS zones from payment of TNUoS charges.



## Modifications Against Applicable Charging Objectives

### **Facilitate competition: Positive:**

- Remove a barrier to entry and reduces discrimination
- Better enable storage operators to compete on their relative merits
- Facilitate competition in the generation of electricity by reducing curtailment and tackling constraints

### **Cost-Reflective: Positive**

- Reflect how battery storage and pumped storage impact transmission licensee costs by importing power, as well as exporting it.

### **Taking account of developments in transmission licensees' businesses: Positive**

- Net zero goals
- Accelerating deployment of storage

## Modelling Scope



We have commissioned modelling investigating impacts on:

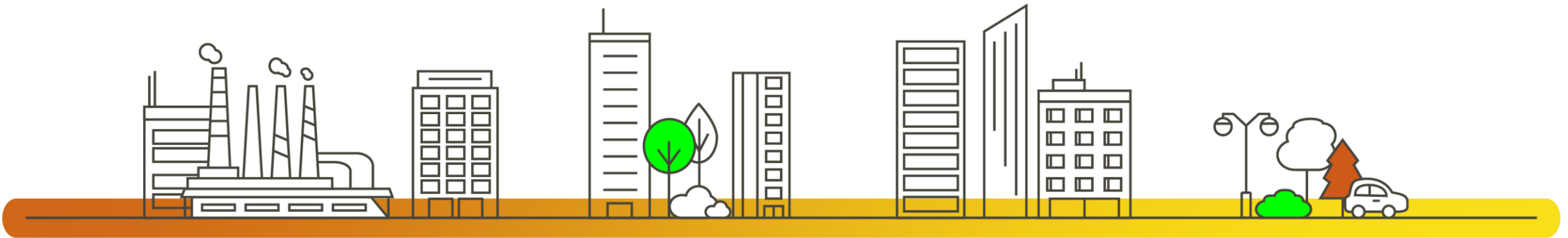
1. Curtailment costs
2. Network reinforcement costs
3. TNUoS rates for generators
4. Storage build in generation-constrained areas



# TDR modifications update

**Grahame Neale**

[grahame.neale@nationalgrideso.com](mailto:grahame.neale@nationalgrideso.com)



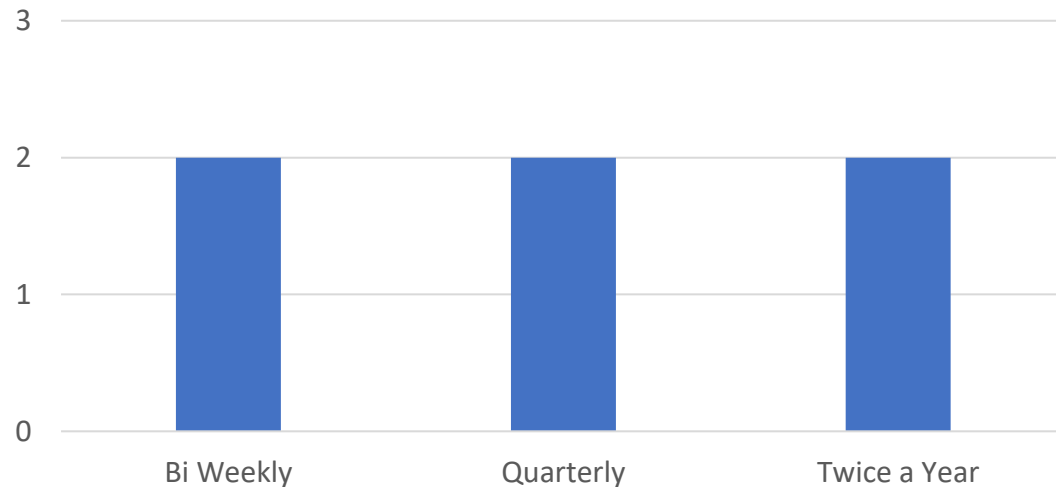
# TCMF and CISG meeting survey results and next steps

**Harvey Takhar**

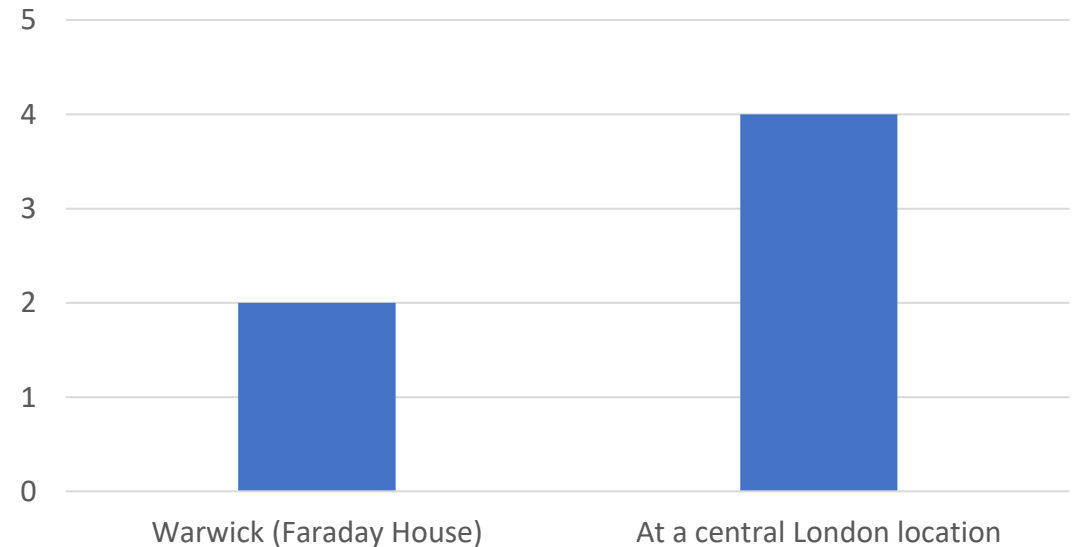


# TCMF & CISG in person meeting survey responses

Thinking about future TCMF meetings being held in person which of the following would you prefer?



Where would you prefer in person TCMF meetings to be held?





## 1) Feedback on areas of focus for deep dives

- Strategic overview of offshore/interconnector
- TNUoS review
- TNUoS Task Force
- OTNR mods
- TNT Model
- TNUoS Charging

## 2) Agreed benefits of discussing these topics F2F

- Use of tools such as whiteboards to aid discussions
- Smaller breakout groups (promoting more engagement from a wider range of attendees)
- informal networking and stakeholder relationship building

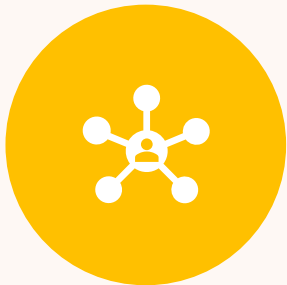
# One improvement you would like to see at TCMF?



More in-depth discussions



More time allocated to mods run throughs - via verbal overview rather than dependence on detailed contained within slides



A specified route/process for wider communication of key issues for those unable to attend



Slides (with links attached to all documents) provided with sufficient time prior to meetings

# AOB & Close



# BSUoS Operational Billing Update

- We are currently looking to issue a revised edition of the 2022/23 payment calendar (available on the website [here](#)). This is due to a required SAP shutdown which will affect 17 RF runs (settlement dates 07/05/21 to 23/05/21) and 15 SF runs (settlement dates 07/06/22 to 21/06/22). We will be looking to reschedule these dates into the notification dates 15/07/22 to 27/07/22:

Notification Date	Payment date	Original		Rescheduled	
		RF	SF	RF	SF
30/06/2022 to 14/07/2022	05/07/2022 to 19/07/2022	17	15	0	0
15/07/2022	20/07/2022	1	1	4	2
18/07/2022	21/07/2022	1	1	3	4
19/07/2022	22/07/2022	1	3	4	3
20/07/2022	25/07/2022	1	1	2	4
21/07/2022	26/07/2022	4	1	5	3
22/07/2022	27/07/2022	1	1	2	4
25/07/2022	28/07/2022	1	1	5	2
26/07/2022	29/07/2022	1	3	3	3
27/07/2022	01/08/2022	3	1	3	3

- For further information on the above or anything else BSUoS billing related, please contact me directly at [heather.stratford@nationalgrideso.com](mailto:heather.stratford@nationalgrideso.com) or the wider team at [bsuos.queries@nationalgrideso.com](mailto:bsuos.queries@nationalgrideso.com)
- To receive our comms and updates, please sign up to our mailing list [here](#).