ESO Markets Advisory Council

5th July pre-read

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A strategic approach to facilitating Distributed Flexibility

- The growth of Distributed Flexibility (DF)* is vital to the decarbonisation of our electricity system and adjacent sectors such as heating and transport. DF poses new challenges on technological, policy and social levels, requiring coordinated efforts from industry stakeholders to understand the challenges, develop solutions and implement changes.
- The ESO's active involvement in facilitating the growth of DF is pivotal given our role in forecasting (FES, operational requirements), network assessment, market/service design and dispatch. There are a range of activities we are already leading or participating in to respond to the DF challenge, such as ENA Open Networks, Regional Development Programmes, Power Responsive, Operational Visibility of DSR, and Metering for Small BM & Non-BM Participants.
- To accelerate the expansion of DF required to meet our 2035 net zero target, it's important that the ESO should develop its Distributed Flexibility Strategy. It will contextualise our roles in the wider DF landscape and offer clarity and consistency to drive our ongoing reforms and engagements. We propose this to include a broad market analysis of DF, including technologies, business models, project development, policies and stakeholders. We will then work with backgrounds from our NZ targets and FES, to define our DF 2035 and 2050 visions, assess pathways to those visions and provide guidance and recommendations for next steps.

Key questions for MAC:

- What role (leading, supportive) should the ESO play in facilitating DF?
- Should the ESO develop an overarching DF Strategy? Should we prioritise this now?
- What can we achieve with this strategy? What type of work we should include? What should be excluded/delegated?
- What are some hypotheses of the key challenges to DF?
- What is the most effective way of aligning our work with the DSO's plans?

Roles in electricity system	Example DF related responsibilities
LT forecasting & modelling	Forecasting DF in FES
Network planning	Anticipating local needs
Supply planning	Influencing policymaking
Energy trading	Influencing market design
Balancing	Accessing DF as BMU
Real time operations	Unlocking visibility of DF

It's important we have a jointed up strategy around DF, to ensure that DF is enabled to meet our balancing and operational requirements.

*Supply and demand side flexibility connected at distribution level and below.

Net Zero Market Reform Phase 4 – Objectives and High Level Plan

- Following our nodal pricing and central dispatch recommendation in Phase 3, there is now onus on ESO to show more detail for implementation and to create a practical and holistic vision for a coherent market design reform package for net zero.
- ESO also has a significant opportunity to influence the debate through BEIS' and Ofgem's own market reform work.
- NZMR Phase 4 will be made up of 3 goals (A, B and C) with timescales driven by both REMA and Ofgem's locational pricing technical assessment milestones.

Goal A: To further develop a coherent market design reform package(s) - including a narrowed range of 'investment' related mechanisms that could work effectively with locational energy pricing.

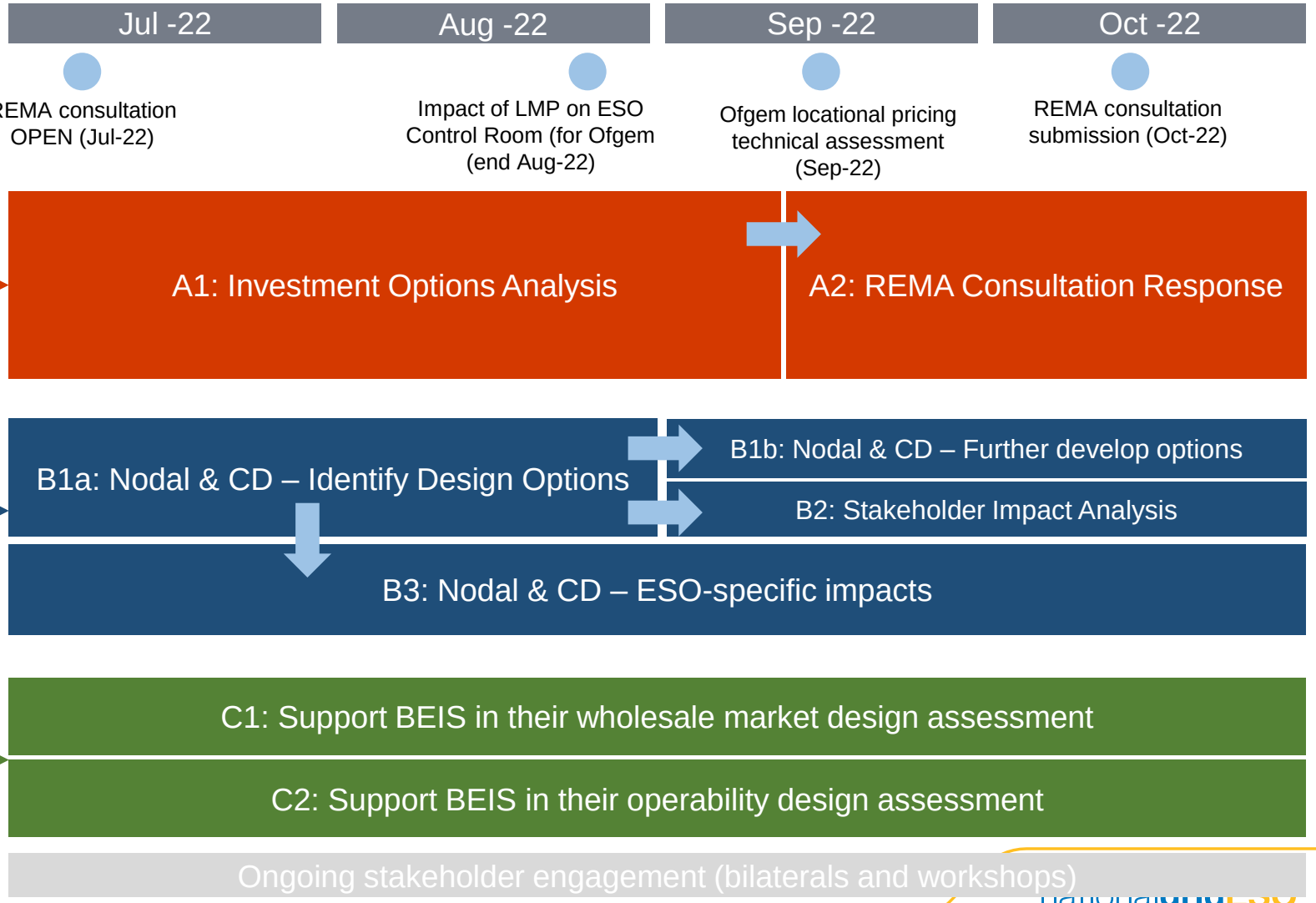
Holistic assessment of the remaining market design elements will be undertaken for purposes of inputting holistic narrative to REMA. Further REMA options potentially added if appropriate.

Goal B: To continue to make case for nodal/CD to inform Gvt decision-making and to improve chance of implementation, with focus on practicalities.

We will develop options for an 'ideal' nodal design for net zero, and test the design iteratively against ESO and stakeholder feedback to reach an end-vision which is pragmatic.

Goal C: To support BEIS in their REMA assessment of wholesale market design and operability.

ESO to be as influential in the REMA assessment process as practically possible. Provide evidence from NZMR work and encourage open and challenging debate.



Net Zero Market Reform: Questions for MAC

Phase 3 Report (link)

- Does the report come across as rigorous and balanced?
- How well did we communicate our position?

Phase 4 Plan:

- Do you think our proposed objectives are appropriate?
- Are we missing anything?
- Are there any areas where we should put particular focus? I.e where ESO can add most value?

Frequency response reform

Lessons learned

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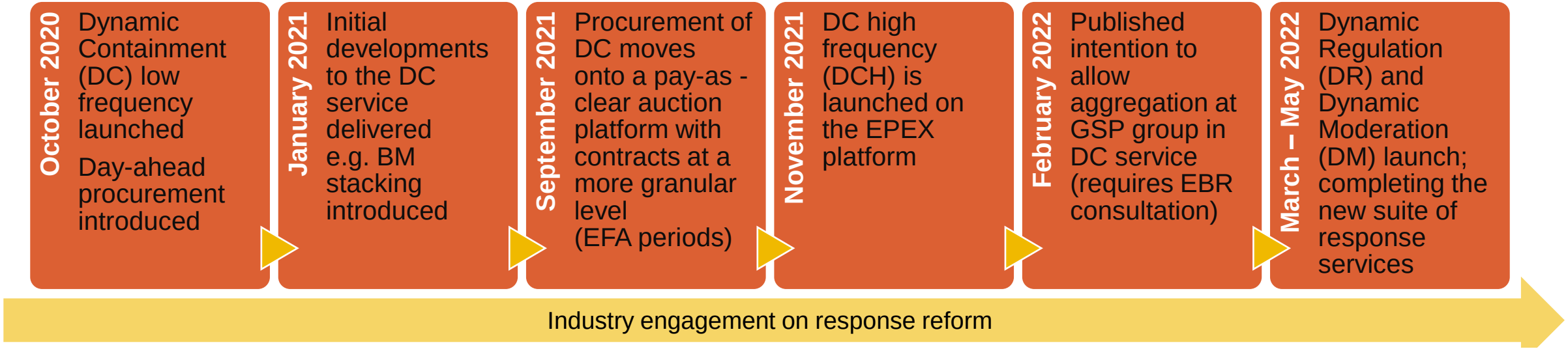
Progress and learnings to date

Procurement improvements Q4 2022
- Shaping of ESO bid price by EFA period
- 4 day rolling forecast of ESO response requirements published
- EPEX overholding simulation study (DCL/DCH market)
- Overholding study (DLH/LFS market). Removed merit order constraints from EPEX algo'.
- Market simulation study ("Wargames")



Dynamic Containment launch
- 6-weeks E2E service development process
- First time running Art. 18 EBR consultation
- Ofgem provided decision within a week
- Prioritised delivery for ESO and Ofgem
- Limited industry engagement

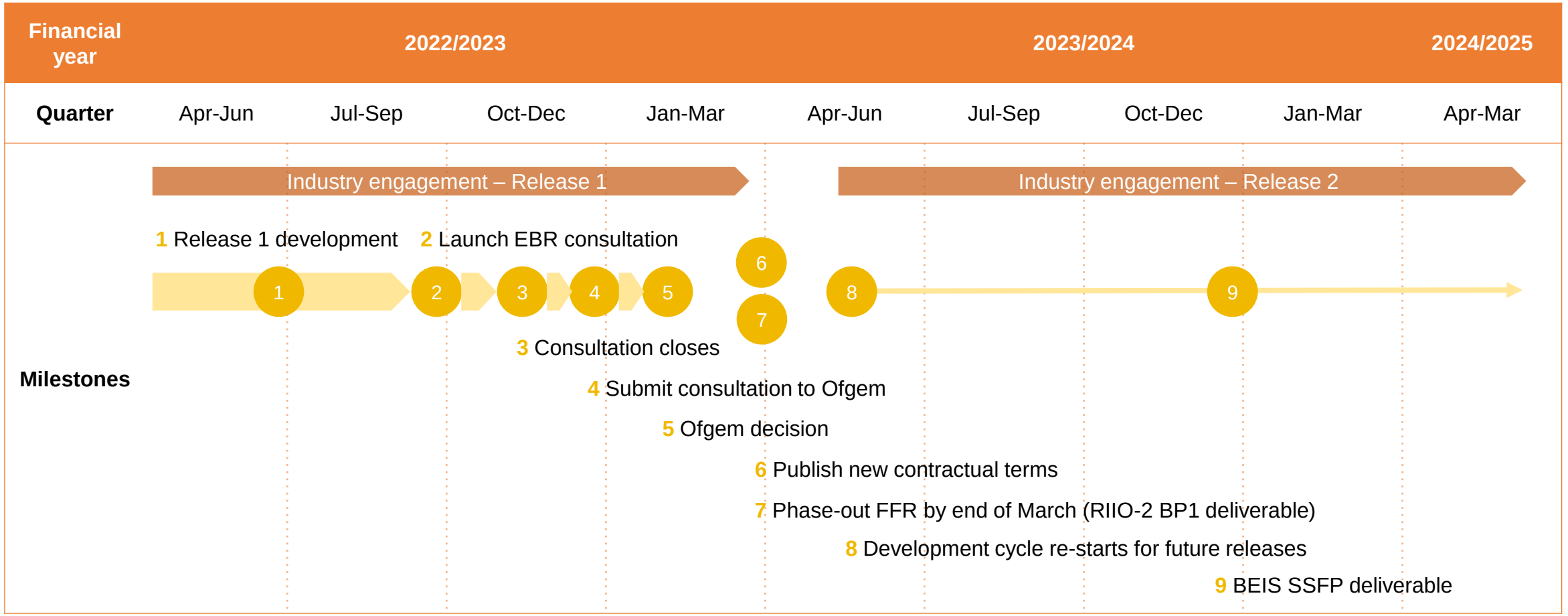
Procurement changes and DCH launch
- Allocated full three months for Art. 18 EBR consultation
- Informal engagement delivered via frequent webinars, 1:1s and interviews with active providers in DC and weekly auction trial, ahead of EBR consultation launch

DM and DR launch
- Identified providers who respond to most frequency response consultations and held 1:1s during the consultation to get early sight of areas of concern. Service design for DR was changed based on these conversations
- Addressed backlog of key IT development areas for frequency response and added them to DM DR release (e.g. non-BM APIs to ASDP) = more efficient IT spending
- Hosted market simulation exercises ahead of DM DR launch to encourage providers to learn about the new response markets

Summary of what we've learned and where we go next

Lessons learned themes	How we're addressing these lessons	Overall progress status
Industry engagement - Earlier insight (progress over perfection) - Reasons behind ESO decisions - Understanding of options considered by ESO - More predictable timelines - More opportunity to feed in - More time to feedback to the ESO	- Yearly release cycles for frequency response, with one EBR consultation/year - Structured, predictable delivery plan reflecting the yearly release cycle. - Frequent face-to-face forums to take feedback on all aspects on response, and provide progress updates. - Product backlog will show change prioritisation	
Transparency of service development - Insight into how services are developed - A view of future plans, i.e. product backlog	- Service development process for frequency services has been mapped and will be shared with industry - Frequency response product backlog will be shared with industry, initially through summer engagement activities	
Cost savings - IT development e.g. ASDP for response and reserve - Legacy/interim systems vs. future capability	- Seeking synergies across response and reserve reform to save cost and time on IT development - Prioritising investment in new technologies, i.e. EAC, SMP	

Response reform delivery plan



Appendix

Transitioning to DR & DM

Launch

Low quantity, testing of processes

Validate

System security testing, performance monitoring, no offsetting of DFFR

Grow

Offsetting FFR starts

Establish

New services maintain a stable frequency and DFFR phased out