



Reserve Product Reform Co-creation workshop

9th December 2020

Aim of the workshop

- 1) To communicate the need for reserve, and the ESO's drivers when designing a product suite and market
- 2) To understand the industry's needs and drivers
- 3) Share ideas to facilitate co-creation of a new reserve product suite
- 4) Identify common themes and areas for further investigation

Agenda

1. Introductions
2. Project scope
3. Discussion
 1. Requirement
 2. Product design
 3. Market design
 4. Performance monitoring & pre-qualification
 5. Dispatch & communications
4. Next steps

How to contribute?

Please have your microphone on mute at all times

Interactive feedback will be through Mural (www.Mural.co), link in the Teams chat

If you have questions, please ask them through the Teams chat

Please be constructive, offer solutions rather than problems

We will publish all the feedback including slides after the event

Principles of reserve reform

Product design will be driven by operational need in conjunction with provider experience

Number of products should be optimised to maximise competition and operability

Transparent market and operational decisions

Standardised products

Minimise barriers to entry

Project scope

Deliver a standardised suite of upward and downward reserve product(s) that work holistically with new frequency response products and reserve replacement products (TERRE and MARI) and can be procured at day ahead through an auction held on the Single Market Platform from March 2022

Project scope

In scope:

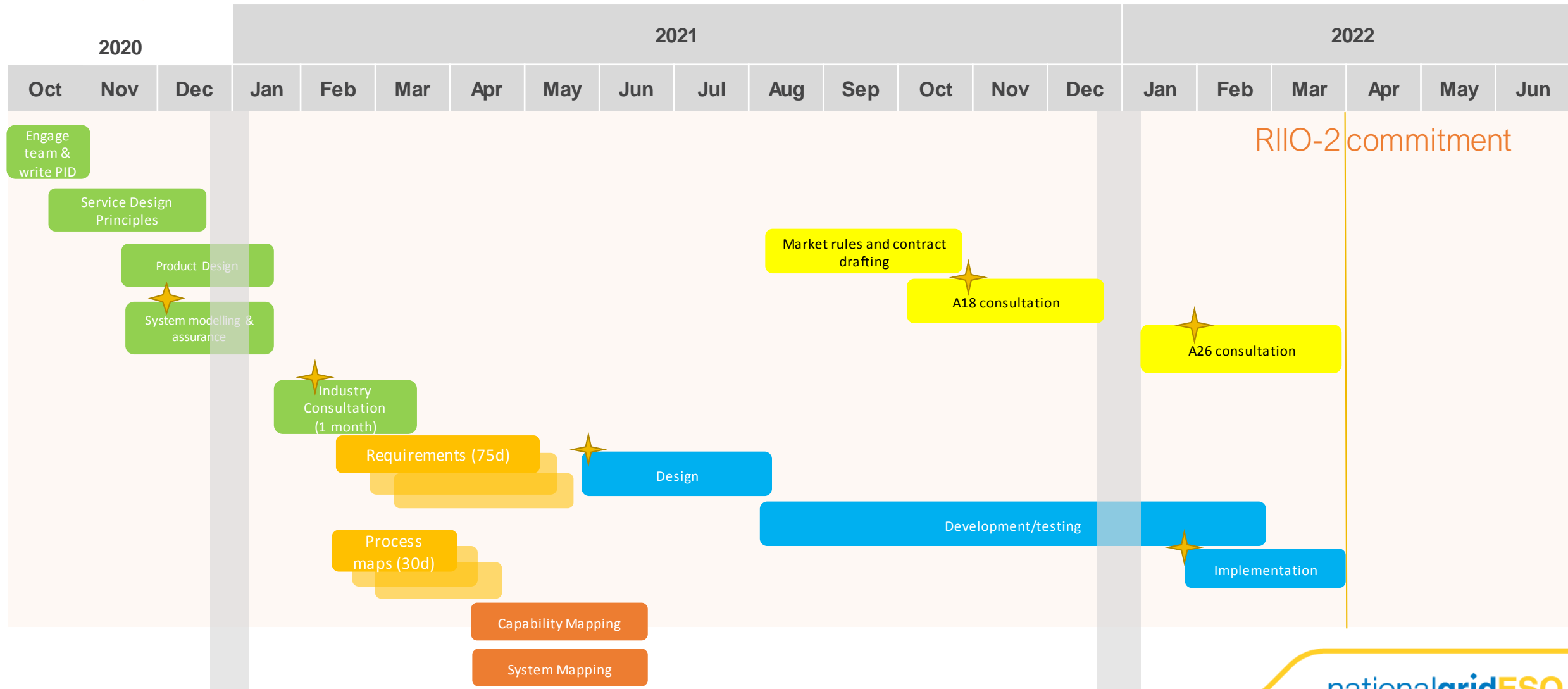
1. Product design (replacement for STOR, firm Fast Reserve, ODFM, spin gen/pump)
2. Market design
3. Performance monitoring approach
4. IT systems for monitoring and dispatch, integrated with the Control Room systems

Out of scope:

1. Review or reform the BM, usage of BOAs, i.e. our 'balancing strategy'

High level timeline

✦ External engagement



Discussion



Topics to cover

Why do we need reserves?

Product design

Market design

Performance monitoring &
pre-qualification

Dispatch & communications

Why do we need reserves?

Restoration after a loss of generation or demand change e.g. wind volatility, including cut out, demand volatility, TV pickup / special events, embedded generation

Complement new Response suite

- Automatic response products bring Freq back to +/- 0.015 (DR) 0.1 (DM) 0.2 (DC)
- Manual restoration to relieve response assets, ready for next issue

Uncertainty in forecast generation profile and forecast demand profile at differing lead times

Example scenarios

- Wind forecast error (long and short term)
- Demand forecast error (long and short term)
- PV forecast error (long and short term), seen as demand suppression
- Short notice of interconnector profile changes
 - Interconnector ramping (especially compounding with multiple ICs)
- System planning data does not match actual conditions

Product design

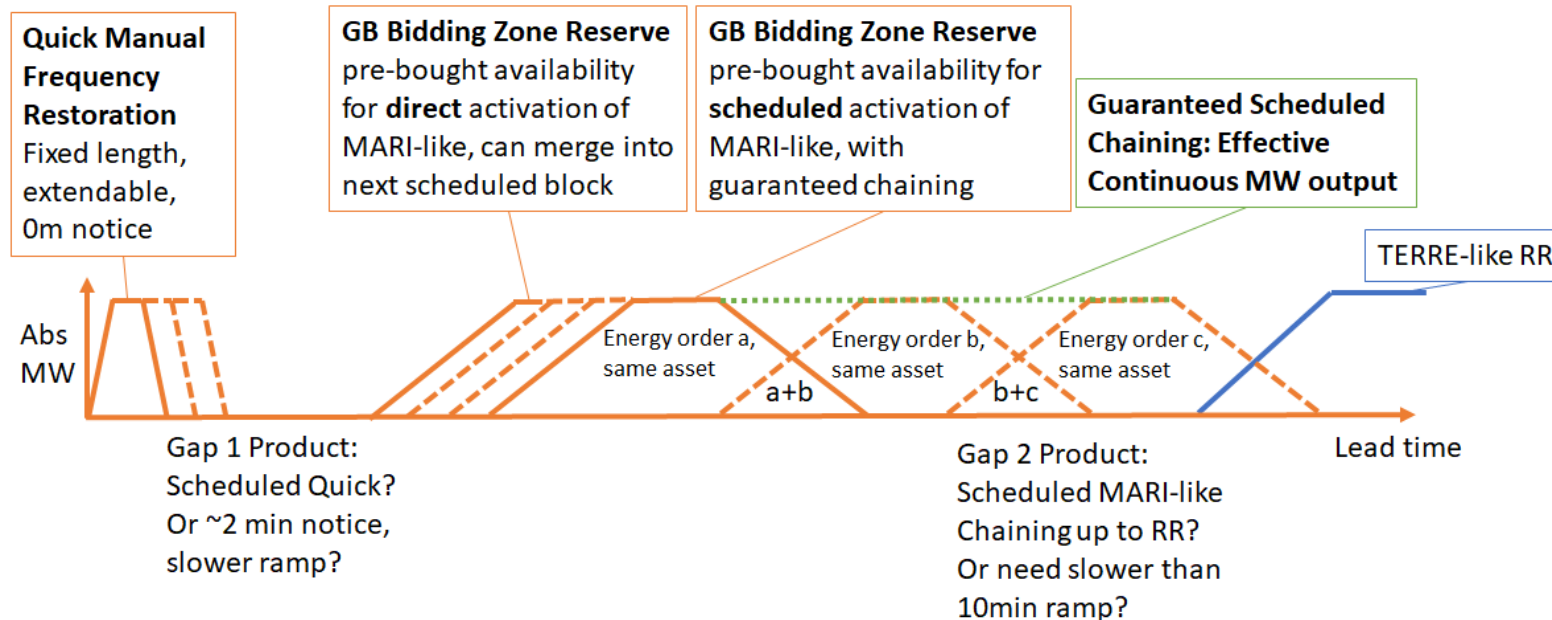
A structured set of reserve products, with a hierarchy of speed of response, available upwards and downwards. Suggestions: Short fixed length with extension options (MWh avail); guaranteed chaining of instructions.

Very fast product needed (better than 2 min notice to start ramping) for situation such as compounding IC run up/down rates causing a rapid imbalance before current reserves kicks in.

- **Quick Manual Frequency Restoration** with 0 minute notice, ~15s ramp to full, fixed length, extendable

Compliment EU product characteristics

- **GB Bidding Zone Reserve** with MARI-like profile, pre-book availability at day ahead to make Firm
- MARI-like: Direct activation with 5 mins notice & 10 mins ramp to full, Scheduled future activations



Co-creation: timings for other products to fill gaps between Quick -> MARI-like -> TERRE-like for discussion to avoid excluding volume. Feedback on extension/chaining

Questions

Market design

When should we hold a market?

- Day ahead: we are required under A6(9) of the recast Electricity Regulation within the Clean Energy Package (CEP) to procure a minimum of 30% at no more than day ahead for contracts no longer than one day
- Separate market at longer timescales would require derogation

Payment structure?

- Availability payments can be pay as clear or pay as bid; utilisation payments must be pay as clear

Market design

What should windows look like?

- Whole day, EFA block, hourly, settlement period?

How should the market be run?

- Open the market up to day ahead, or run single procurement window?

What should the structure of bids look like?

- Linked through time, different prices per window, curtailable/non-curtailable?

Market design

Optional Fast Reserve products spin gen and spin pump work by synchronising units to the grid but not using any active power to generate or pump

They offer headroom and footroom, but also provide system stability benefits such as inertia

How could we include combined products in a day ahead reserve market?

- Flat price uplift, separate product in the market, other?
- What are the implications for a future stability market?

Questions

Performance monitoring & pre-qualification

AIM: *The ESO should be able to justify every £ spent on balancing services and to be able to validate that the services we buy will deliver the appropriate level of system security.*

Both prequalification and performance monitoring can help achieve these aims.

Performance monitoring should:

- Incentivise the right behaviors via a balance of reward and penalty
- Be applied equally for all participants (as much as is possible)
- Be transparent and non-gameable
- Be scalable, automated, repeatable and flexible

Prequalification should

- Assess technical capability to deliver services without placing unreasonable costs on assets
- Be independently verified

Discussion

Questions to stimulate debate:

- Is reserve less critical than response? Could the perfmon rules be less strict?
- What data and at what resolution is needed for performance monitoring?
- Should there be consistency of rules across all reserve services? (to allow optimisation)
- Where to find the balance between:
 - Robust prequalification no ongoing perfmon
 - No prequal but strict perfmon regime
- Could randomised spot-testing be used as part of performance monitoring?
- Could providers qualify via asset-type/class prequalification?
- Are baselines appropriate for measuring delivery and is a PN a valid baseline?
- What level of transparency is appropriate? (for performance and penalties)
- Should past performance be incorporated into the assessment/tender process?

Questions

Dispatch & communications

Dispatch and monitoring of real time availability will be through API and EDL/EDT type systems, using learning gained through the Ancillary Services Dispatch Platform currently in use for STOR and Fast Reserve

Principle that the system should be integrated into Control Room screens as far as possible, with bulk dispatch and integration capabilities

What metering standards should be used for:

- a) Real time monitoring
- b) Post-event performance review

Questions

Next steps



Next steps

We will collate all the information from the Mural board, and publish it along with the slides on the Future of Balancing Services page of the website

We will use the feedback to create a proposed product and market outline, and consult on it in the new year



Thank you for
your time and
participation