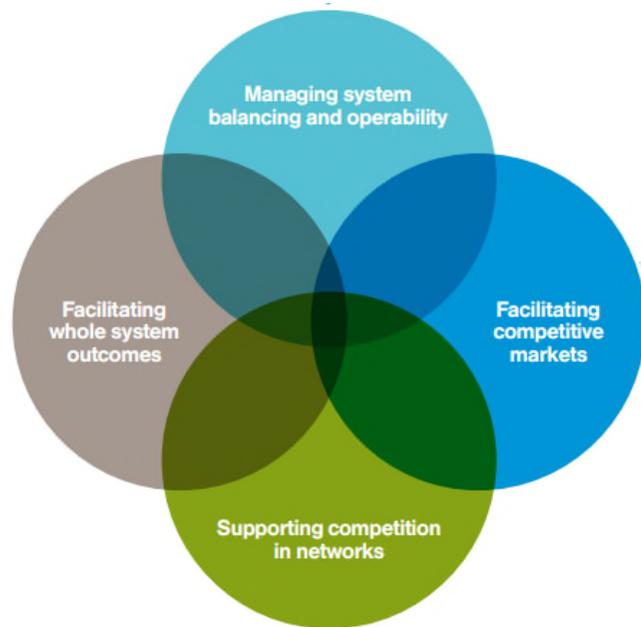


ESO Forward Plan and Reform of Balancing Services

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Ancillary Services
Development Manager



ESO Forward Plan



...thinks **across networks**, plays a more active part in the energy system and helps to **shape frameworks for markets** ...**transparent** in our decisions and actions and promote **increased use of markets**...
...continue to run the electricity system **safely, securely, sustainably and efficiently**.

Our vision delivered through 4 roles
70+ deliverables across 7 principles

Principle 3: removing barriers and creating equitable markets for balancing services

Frequency response and reserve

Reactive Power

Restoration/Black Start

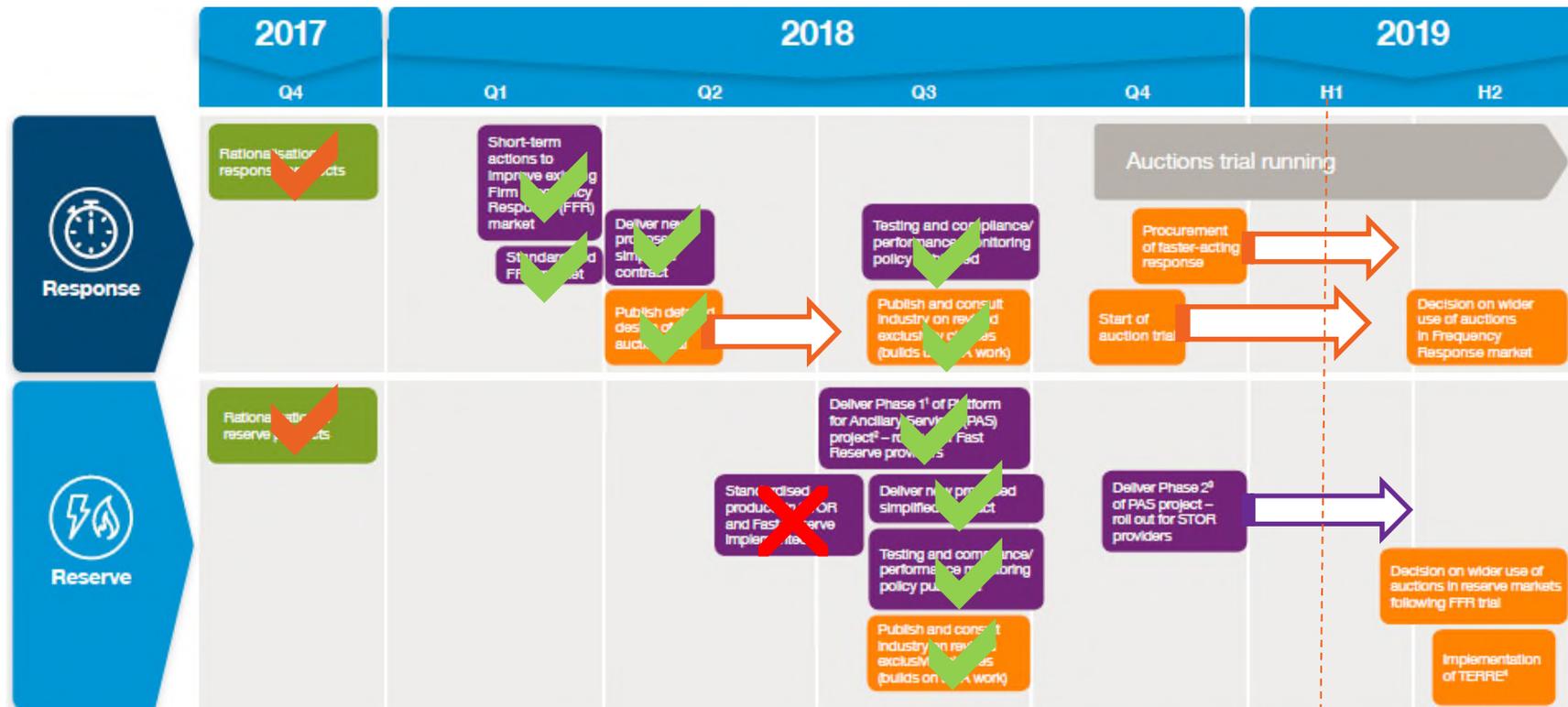
Wider access to the Balancing Mechanism

Intermittent generation

Provider experience



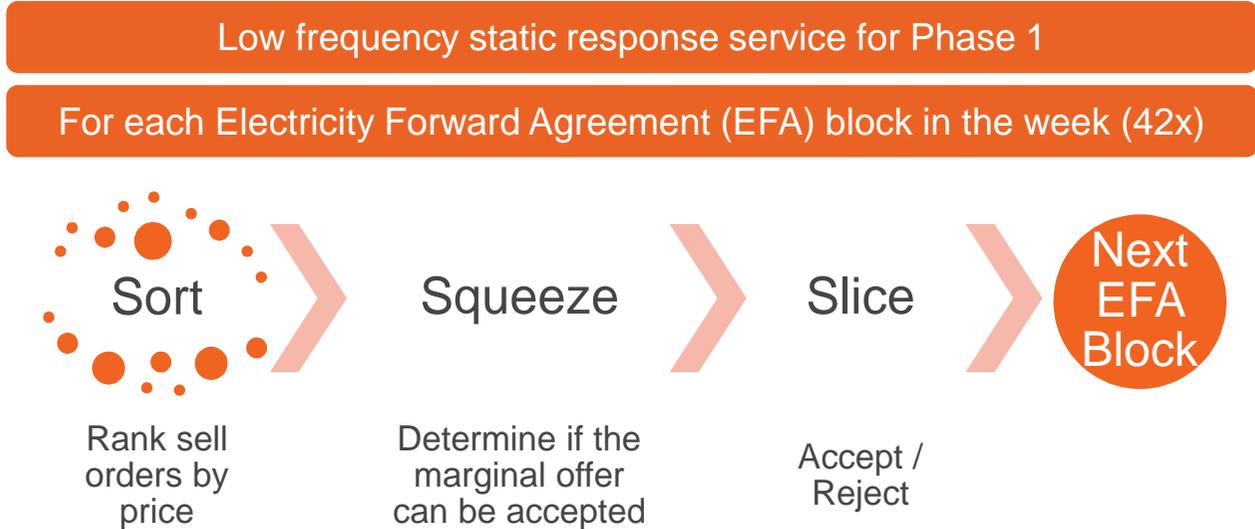
Frequency response and reserve



Frequency response and reserve

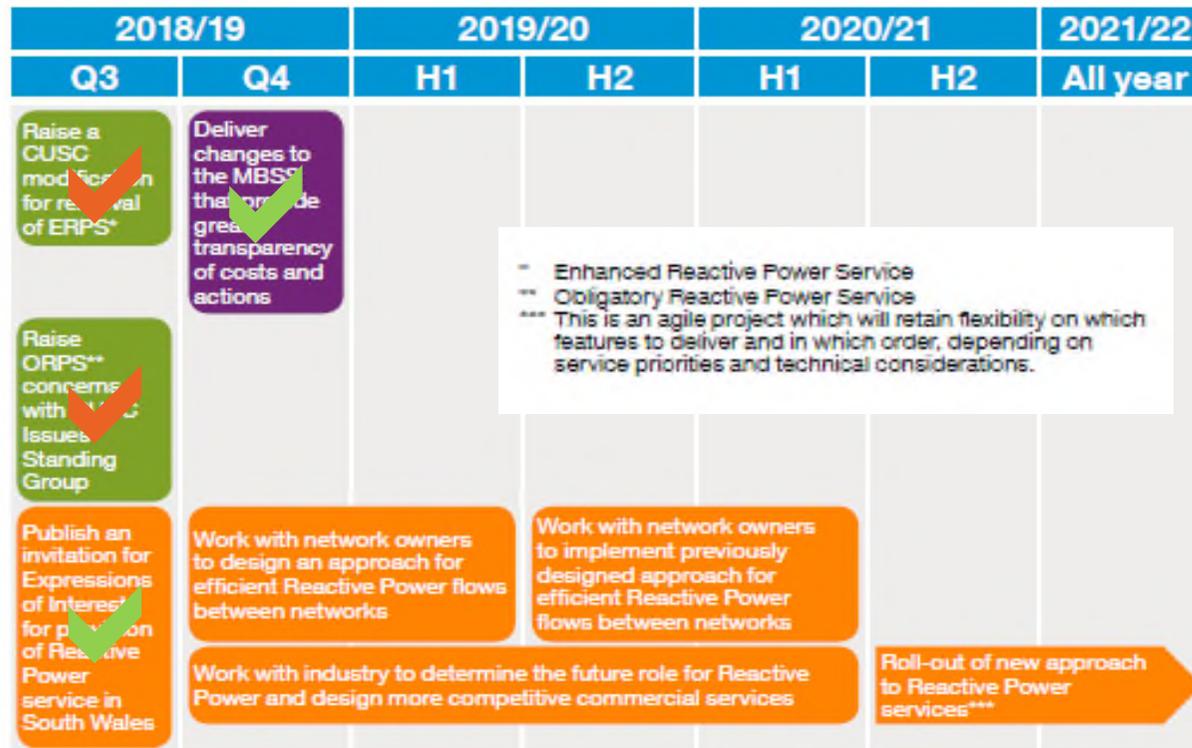
Weekly frequency response auction trial

- Phase 1 – 25th April 2019
- Phase 2 – September 2019



Reactive power

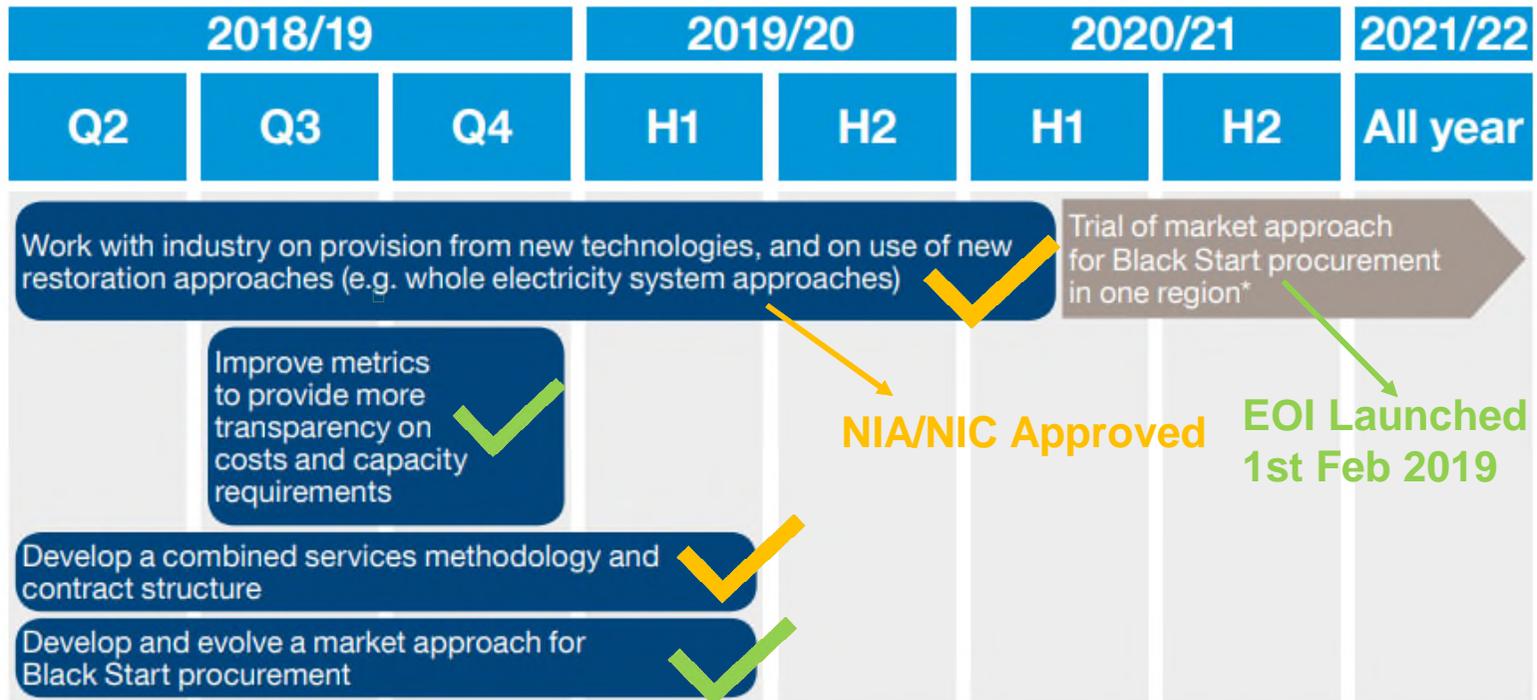
Figure 0.1
Roadmap of actions



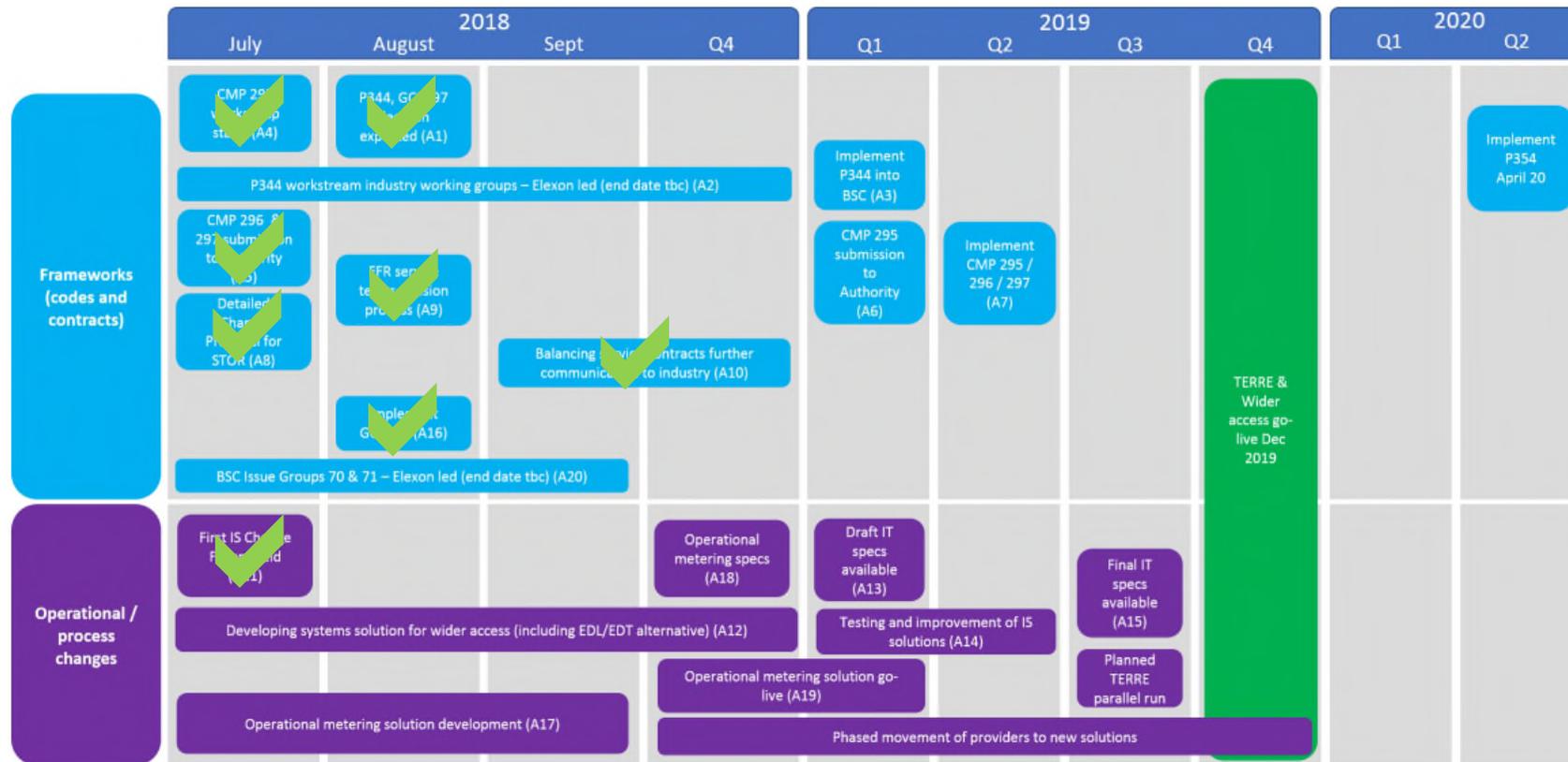
Reactive – Future Work

Communicate reactive power requirements & historic spend	Per region, to be clear about what we need in short, medium and long term and confidence levels of requirements, alongside historic voltage costs to increase transparency of spend on voltage actions.	Q2 2019-20
Implement approach for efficient reactive power flows between networks	Having worked with network owners to design a whole system approach to managing reactive power flows between networks, implement that approach.	Q2 2020-21
Work with industry to determine future role for reactive power and design more competitive reactive power services	Industry engagement through webinars, consultations and workshops as appropriate, to explore options to improve reactive power services and refines these to arrive at an approach that can be implemented.	Q4 2018-19 – Q2 2020-21
Commence implementation plan to enable rollout new approach to competitive reactive power services	Improved reactive power service that promotes competition where possible and enables economic and efficient procurement.	Q3 2020-21
Power Potential trial with UK Power Networks (UKPN)	Innovation project in partnership with UKPN aiming to create a new reactive power market for DER and generate additional capacity on the network.	Q2 – Q4 2019-20
Review learning from Power Potential	Learnings to inform whether to procure reactive power services from DER and if so, how to do so in partnership with DNOs.	Q4 2019-20

Restoration



Wider access the Balancing Mechanism (BM)



Intermittent Generation

Raise code modification to apply Power Available consistently across technical & commercial codes	Power Available, Maximum Export Limit (MEL) and De-Load need consistent application across technical and commercial codes to facilitate accurate settlement and imbalance reporting	Q1 2019-20
Publish Power Park Module signal best practice guide	Functional description of best practise for Power Park Modules submitting Power Available to supplement technical codes	Q2 2019-20
Deliver Power Available integration phase 1	Integration of Power Available into energy calculations to improve control room visibility of Power Park Modules returning from BOAs and high-wind shutdown	Q3 2019-20
Publish wider strategy on flexibility from intermittent generation	Long-term vision and next steps for increasing flexibility from intermittent generation	Q4 2019-20
Deliver Power Available integration phase 2a	Integrate Power Available into settlement and real-time response calculations to facilitate use of wind units for Mandatory Frequency Response (MFR)	Q4 2019-20
Deliver Power Available integration phase 2b	Improve wind forecasting and response optimisation by blending Power Available with wind forecasts close to real-time.	Q3 2020-21

Provider experience

What we set out to achieve – being a better buyer

- Deliver a **great provider experience for a diverse set of businesses**
- Make it easier for National Grid ESO as the buyer and providers as the seller, while **reducing balancing costs, fostering innovation and competition**

Understand the end to end experience for providers and how we can improve it

- Mapped end-to-end experience
- Engagement with colleagues and providers to provide insights

Deliverables align to ESO Forward Plan incentives

Provider experience - key deliverables from insights

Balancing Services Guide ✓

- One stop shop, signposting

Open innovation environment ✓

Feedback at key moments of the Provider Journey

- Onboarding ✓ - continue to refine
- Tendering ✓ - continue to refine
- Contract start – under development June 2019
- Query management – under development June 2019

Calendar of events ✓

Future work:

- Provider portal
- Ongoing surveying to inform performance benchmarks



How to stay informed and provide your views

There are a number of ways you can keep up to date on the progress we're making on the reform of balancing service and Principle 3 activities.

The latest developments are signposted through:

- **ESO incentives performance website** – progress reporting on a monthly, quarterly and six-monthly basis
- The **Future of Balancing Services website** – including our monthly newsletter published on the site
- The **Future of Balancing Services mailing list** – you can subscribe via the Future of Balancing Services website
- The **Six Month Operability Report** – one of our ESO Forward Plan commitments, highlighting the challenges we face in maintaining an operable electricity system