

# ESO Demand Flexibility Service Show & Listen Collated Feedback

8<sup>th</sup> Feb 2023

## Executive Summary

The ESO held a Demand Flexibility Service (DFS) Show and Listen on the 8<sup>th</sup> February, this document collates the feedback from the event.

We have started to look at what is needed for next Winter, and the purpose of the workshop was to hear thoughts from current,

potential providers, and other industry bodies on the designs of the current and potential future services for demand flexibility.

The workshop started with an update on feedback we have received from industry so far, insights into the Tests and Live Events and considerations for what next. The second part of the workshop involved collaborative round tables centred on several key topics.

The slides we presented can be viewed on our website: <https://www.nationalgrideso.com/industry-information/balancing-services/demand-flexibility>

This document shares the collated feedback from the event and a summarised version can be accessed on our website. We still want to hear from industry, if you have any comments/thoughts, please contact us vis [demandflexibility@nationalgrideso.com](mailto:demandflexibility@nationalgrideso.com)

## Purpose of this document

- **This document thematically summarises key outputs covered across the 6 collaboration topics during the workshop (as well as individual feedback from participants who were unable to attend).**
  - Wider ESO Flexibility Opportunities
  - Supplier/Market Led Opportunities
  - DFS 2.0 Evolution
  - Maintaining Consumer Engagement
  - Innovative Options /Ideal Future State
  - Regulation Standards Codes Permits
- **It purely plays back the key themes, and does not outline any analysis, prioritisation, recommendation, next steps – these are to follow later.**

# ESO

## 1. Wider ESO Flexibility Opportunities

### Market opportunities

*What wider market opportunities are there available to the ESO?*

- **Market reform visibility:** Industry would benefit from greater visibility and awareness of our reform work particularly for those who are not “traditional” participants in our markets.
- **Reserve reform:** this market reform work in particular had a lot of interest due to the similarities in delivery. The positive and negative areas were widely welcomed.
- **Commercial viability:** some questions were raised about the attractiveness/viability of competing in ESO commercial markets vs DFS current value.
- **Operational metering trial:** the ESO is running a trial to test metering standards for electric vehicles in the Balancing Mechanism
- **Auditing scope/emissions:** enabling access to DFS for back-up diesel generators, working around emission regulations
- **Real-time markets:** the progression to closer to real time could unlock more flexibility. Recognition that BM wider access was a route to market for this.
- **Notification timescales:** have providers been testing different notification timescales with consumers to see how delivery differs? E.g., Optional within-day could build confidence for the Industrial & Commercial (I&C) participation
- **Provision timeline:** merging Optional Downward Flexibility Management (ODFM) and DFS all year round could be beneficial for engagement
- **Multi-year agreements:** to get a better buy-in

### Barriers

*What are the barriers to unlocking participation in these opportunities?*

- **Stackability:** no ability to stack DFS with other ESO services. Exclusion of Capacity Markets (CM) Agreements not relevant – additionality and coincidence with CM events
- **Aggregation:** currently no aggregation across GSP groups for other services
- **Asset/Non-HH metering:** currently only boundary meters and half-hourly metered allowed
- **Industrial and commercial:** not widely participating, improve messaging and reach of messaging
- **Education:** educate consumers on DFS and most impactful behavioural changes needed

### Commercial viability

*To what extent / how can they be commercialised?*

- **Real-time markets suit demand response predictability.** Recognition the prominent current option for this is the BM.
- **Opportunity to replace TRIAD revenues for I&C.** A lot of general questions around where ESO believe TRIAD volumes will go.
- **No penalties:** this was an attractive commercial term to drive participation.
- **Market value vs the BOA/BM stack**
- **IT upgrades**
- **ESO markets design not suited to manual demand response**

# ESO

## 2. Supplier/Market Led Opportunities

### Industry insights

*What are industry plans and insights into emerging opportunities?*

#### Growth of incentive-sharing schemes

- **'Win-win' wholesale position management:** for a % 'profit' share, suppliers ask customers to reduce peak consumption, so they can either sell back the excess or reduce incurring loss.  
E.g., OVO Energy 'Power Moves' / "Shift & Save", Smartest ODR, Utilita Nudge, Drax Electric Assets,
- **Tiered schemes:** specifically appealing to consumer segments with the highest impact (hence, those likely to benefit the most).  
E.g., High consumption assets: EV chargers, domestic batteries, smart heat pumps.

#### Option of a "last resort" service

- **'Last resort' service:** room for the ESO/government interventions calling consumers to reduce consumption at times of high black-out risk or tight margins (i.e., times when monetary incentives for suppliers to balance their positions through DFS are low); i.e., national service branded and operated separately to those owned and offered by suppliers.  
E.g., "Amber Alert" (state wide emergency notifications system) in California; CAISO's (California's energy system operator) Flex Alerts  
  
E.g., RTE (France's Transmission System Operator)'s Ecowatt service (publicly available electricity consumption in real time - to guide consumers to make the right choices) and text notifications service warning in case of power cut risks

### Blockers

*What are the blockers to unlocking the progress?*

#### Lack of awareness

- **Not widely recognised:** many suppliers are still unaware of the opportunity and the business case for implementing their own type of demand flexibility service.
- **Uptake of half-hourly settlement:** HH settlement will incentivise suppliers to balance positions naturally and encourage consumers to flex their consumption times.

#### Market impacts

- **Aggregator vs supplier misalignment** (i.e., good for aggregators, bad for suppliers): although the aggregators could broaden the pool of participating 'providers', they would struggle to integrate the same model as suppliers since they do not own nor manage the consumer wholesale positions.
- **Imbalance costs:** financial cost caused by the aggregator (asking the consumer to flex demand in response to their signals) but incurred by the supplier (placed in the imbalanced position).
- **Negative externality:** the imbalance costs are likely to be passed on to the consumer energy bills, thereby cancelling the reward consumers receive for participating.
- **Moated meter data:** it is unclear how the consumer metering data/consent to access data could be accessed/acquired to settle.  
E.g., P415 (Facilitating access to wholesale markets for flexibility dispatched by Virtual Lead Parties)/P444 (Compensation for Suppliers and Virtual Lead Parties for Virtual Lead Party actions in the Balancing Mechanism)

# ESO

## 3. DFS 2.0 Evolution

### Known enablers

*What worked well for DFS winter 2022/23?*

#### Motivational consumers engagement

- **Augmenting the consumers' role:** DFS managed to engage participating consumers in previously unseen and active ways beyond being passive energy end-users. It helped them to understand the value they play in the energy system and 'feel' what a huge impact their small behavioural changes can have.
- **Low-risk appeal:** Low commitment and limited liabilities on customers/providers incentivised the uptake and made contracting easy.

#### Cross-industry collaboration

- **Provider collaboration:** successful collaboration between the ESO and providers, coupled with openly shared test data and other learnings, has helped them to optimise the best practices and brought the issues to the forefront early on.

E.g., Uncovering MPAN duplicates issue.

#### Provider certainty

- **Cost & revenue certainty:** providers faced no penalties for any forecast deviation (i.e., under/over delivery; revenue streams were planned accurately due to the Guaranteed Acceptance Price (GAP) and guaranteed number of test events).
- **Streamlined sign-up process:** providers were able to plan their site activities efficiently.

E.g., Day-ahead notification (much better than within-day to see the response and had similar consumer notice).

E.g., Low tech settlement process to allow providers to be ready on day one.

### Potential enhancers

*What improvements would further enhance the service?*

#### Widening competition

- **Seamless switching:** making it easier to de-register with a provider and switch to a new one; improving accessibility for business with existing flexibility commitments.
- **Facilitating aggregators' participation:** resolving the issues aggregators face with the access to smart meter data and tedious process consumers must go through to enable access.
- **Facilitating further industrial and commercial (I&Cs) participation:** enabling and simplifying the ways-in for I&Cs to participate directly rather than via aggregator or supplier.
- **Facilitating broader generator participation:** revisiting the consideration of using standby diesel generators in specific instances (e.g., when it helps the security of supply or reduces carbon emissions overall).

#### Product improvements

- **Refined baseline methods and design:** resolving gaming and accuracy issues; applying different baselines for different customer types & assets; refining baselining adjustments after as well as before.

E.g., anecdotal examples of end-consumers adjusting their behaviour in a way that maximises the DFS revenue but is not necessarily aligned to wider system costs and operability.

# ESO

- **New product types:** security of supply (enhanced action service and trigger if price lower than the BM) vs suppliers balancing their own market positions (pre-market wide HH Settled).
- **Built-in flexibility:** learning about potential enhancements in this area from DFS evaluation and service analysis this summer; incorporating different flexibility use cases (e.g., things that can be activated remotely without consumer intervention can be delivered with more certainty and shorter timescales).
- **Better customer insight:** enabling more data and continuous insight-led service improvements.

## Pricing considerations

- **Comparison tools:** exploring price discovery for providers and consumers and running tests with varying price levels to determine volume & price stack.
- **Provider penalties:** while penalties on the end-consumers should be avoided, it is reasonable to place them on the providers as they manage the operational risk.
- **Applicable Balancing Services Volume Data (ABSVD):** looking at the split of HH settled MPANs; assessing the impact on non-HH settled demand
- **Other questions:** if service is not needed closer to real-time, would the ESO cancel the tests and still pay %? Will GAP exist next winter? What about under/over delivery penalties?

## Automation and simplification

- **Simplified sign-up:** consider removing active opt-in and allowing a mixture of opt-in and opt-out for different types of flex; updating the terms so that the consumer needs to confirm participation once only (instead of twice: a day ahead and before 9 am on the day of the event).
- **Greater process automation:** use of the market platform, standardised API (for data, bids, dispatch), automated consumer participation (opt-out service), and centralised database to check MPAN/mobile number portability; increasing the level of automation with fewer file submissions as we learn more.
- **Real-time:** running automated service closer to real-time (4hrs? 6hrs?).

## Process standardisation

- **Resolving duplication rules:** creating a centralised MPAN register, outlining clear rules around the MPAN ownership (e.g., classifying the difference between Manually Initiated and Directly Instructible – whole MPAN vs asset meter), introducing automated checks (e.g., API at sign-up checks that prevent 2 registrations)
- **ESO regulation:** ensuring that users are opted in with the provider for flex management and not for other services (e.g., electricity supply)
- **New service/rules:** defining service rulebook (e.g., minimum level of tests/events per month for engagement) but allowing time to learn, adapt and educate.

## Commercialisation

*What would a commercial service look like to you?*

### Architecting the right pricing

- **Bid mechanism:** since some providers complain that split units do not work, perhaps suppliers could set a minimum price of the accepted bid allowing more transparency
- **Standardising incentives:** investigating if suppliers pay consumers using the same baselining/incentives; standardising proposed benefits (£ per event) for different consumer types.
- **Commercial viability:** clarifying what the ESO needs to include the DFS to the stack (i.e., if DFS was considered a commercial action, how would it compare against our other actions in terms of pricing).
- **Availability payments:** currently, the DFS has utilisation payments only and not availability payments; assessment whether this can be designed in a similar way as it has been for the Balancing Reserve.

# ESO

## Enlarging the market

- **Smart meters uptake:** enabling adoption and installation of smart meters and smart home devices.
- **Device interactions:** assessing the interactions between asset meters (e.g., EV chargers, other smart home devices – currently not allowed) vs boundary meters (i.e., entire home meter).
- **Increasing volume:** if the volume is the key consideration, assessing whether diesel generators can participate.
- **Extending provision timeline:** assessing whether the DFS can be extended to run all year/summer service (turn up) as well.
- **Remote turn down:** gathering future requirements to build a business case for automated/ remote turn down (it currently requires manpower and cost at site).

# ESO

## 4. Maintaining Consumer Engagement

### Engagement drivers

*What has worked well to drive engagement?*

#### Marketing

- **Media headlining:** the mainstream media picked up the live events
- **Targeted customer communications:** provider-owned messaging (i.e., ESO provided guidance but did not prescribe how to speak to customers or incentivize them); different communication campaigns catered for a range of customer experiences.
- **Behavioural nudging:** focus on positive messaging  
E.g., 'Enjoying digital detox hour'.

#### Choice enablement

- **Created a new market:** for consumer demand flexibility

#### Reassurance

- **Stability of incentives:** planned (test) events helped with communications
- **Effective advice provision:** how to participate safely and suggested behavioural changes

### Uptake drivers

*What will drive increased volume? (Incentive, tech, process)*

#### Technology

- **Smart meters roll-out:** DFS acts as an incentive to encourage smart meter adoption.
- Increased electric vehicle ownership
- **Comparison tools - Transparent incentives:** to enable people to choose a provider that suits them.
- **App/IHD:** improved real-time notification reminders of booked events.

#### Marketing

- **National campaign:** harness the government push by designing a national campaign.  
E.g., Protect the UK's energy security / protect NHS.
- **Testimonials:** share user stories, case studies, social-proofing and other forms of emotional storytelling.

#### Incentives

- **Articulating incentive vs impact:** diversified messaging about the impact and incentives for participating.  
E.g., £ saving + tCO2 reduction + Power outage avoided.
- **Diversified incentives:** introducing new options for receiving benefits.  
E.g., Points vs Rewards vs Cash vs Cash-back.  
E.g., Non-monetary incentives for low consumption households (to whom the monetary benefit would be very low otherwise).

### Experience guardrails

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*How do we protect/provide a good experience?*

## **Resolving for exclusion**

- **Fair access:** what about households which cannot have a smart meter?

## **Consumer Education**

- **Understanding impact:** educating the customer about what works  
E.g., no point in turning all LED lights off as they consume little energy.

## **Ease for signing-up**

- **Flexible sign-up:** ensuring consumers can sign up and be enrolled any day of the week (not just Friday MPAN submission); faster and easier duplicate MPAN management.
- **Competition and clear comparison of propositions:** between suppliers and aggregators for consumers to sign-up

# ESO

## 5. Innovative options/ideal future state

### Wider questions

- **Ethical considerations:** should consumers be asked to move their demand? Is it right (general agreement was 'yes'); should this be carbon driven rather than financially driven?
- **Infrastructure limitations:** how to resolve the limited access when smart meters are either not installed or not working.
- **Non-monetary/'Blue-box' incentives:** what are different ways to incentivise the demand to move from peaks  
E.g., Netflix = people watch shows at different times rather than live.
- **Role of regulation:** should "traditional" and "flexible" demand be regulated differently (e.g., aggregators having equivalent to supply licence); would regulation slow down innovation?
- **Service design:** should this be a capacity-based rather than utilisation-based service; could this act as a feeder service to other ancillary services?

### Expanding the product

- **Integrating Vehicle-to-Grid (V2G):** allowing electric cars to integrate to the electricity system
- **Summer product:** demand turn-up as well as down
- **Asset metering included:** inclusion of asset meters participation alongside boundary meters
- **Within-day and day-ahead options:** procurement notice period, aligning close to real-time procurement and Balancing Mechanism timescales
- **Stacking with other services:** E.g., Capacity Market / DNO flex services

### Baseline Ideas

- Fixed baselines based on consumer type
- Control group sets baselines for wider participants
- Baselines are disaggregated from the national outturn

# ESO

## 6. Regulation / Standards / Codes / Permits

### Blockers

*What are the blockers for 22/23 participation and delivery?*

#### Unfair access to key data

- **Not a level playing field:** unfair access to smart meter data for other providers; sub/asset meters not able to participate.

#### Legal ambiguities

- **Marketing consent:** suppliers are currently cautious about breaking license conditions: Is DFS considered a 'product' or a 'service' from a marketing consent perspective?
- **Unlimited liabilities & indemnities:** in contractual terms/ T&Cs these are worrying for some
- **GDPR considerations:** contacting consumers who have selected no marketing – defining the DFS as service or product.
- **Data access consent:** there are many daily read meters; need the household consent to change to half-hourly.

#### Commercial

- **Stacking rules:** not being able to stack the DFS with other ESO/DNO services is a blocker in the design of service

### Unlocking additional technologies and volume

- **Alternative demand:** Transmission connected supply sites
- **Non-domestic diesel generators / co-locating diesel generators and batteries:** What options are there to obtain other permit types and convert existing plant to reduce emissions.
- **Accessing new flexibility:** some parties with Capacity Markets Agreements, DFS not currently classed as eligible balancing service so cannot be stacked with Capacity Market
- **Back-up generation:** Use test hours of back-up gens for DFS event periods, e.g. hospital back-up gens.
- **Meter specifications:** Requirement for only boundary meters, options for sub/asset meter inclusion.

### Future risk and opportunities

#### Process standardisation

- **MPAN duplication/switching:** ESO to take a view and implement a process for all to follow.
- **Stacking:** Can we test a Capacity Market event with DFS? Does this clash? If not – why can't CM units participate in DFS?

#### Incentive standardisation

- Common expectation from suppliers towards customer reward

#### Localisation with central oversight

- Local development programmes managed by ESO then divided up by region to avoid complication