DSO Incentive

Recommendations on the Performance Panel Assessment

9th November 2022

UK Power Networks
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DSO Performance panel & Regularly Reported Evidence

Currently no clear linkage between the Performance Panel assessment and the RRE

Performance Panel

- 40% of the DSO incentive reward/penalty determined by a DSO performance panel's evaluative assessment of company performance

- Each DNO scored out of ten against five criteria:
  - Delivery of DSO benefits
  - Data and information provision
  - Flexibility market development
  - Options assessment and conflict of interest mitigation
  - Distributed energy resources (DER) dispatch decision making framework

RREs

- No direct link to DSO incentive, but intended as supplementary information to assess DSO performance

- Evidence provided to Ofgem and the Performance Panel, comprising:
  1. Capacity released through flexibility
  2. Primary network forecasting accuracy
  3. Transformer utilisation
  4. DNOA or equivalent decision outcomes

Formally linking RREs to Performance Panel criteria should make it easier for the panel to compare across DNOs

Performance Panel Criteria

Performance Panel criteria should be tested in the same way as Performance Metrics

- Ofgem has proposed **five differently weighted criteria** to be applied by the Performance Panel
  - Delivery of DSO benefits
  - Data and information provision
  - Flexibility market development
  - Options assessment and conflict of interest mitigation
  - Distributed energy resources (DER) dispatch decision making framework
- Whilst not as quantitative as the Outturn Performance Metrics, it is appropriate to apply a similar test to the proposed Performance Panel criteria:
  1. The metrics **drive the right behaviours** and are aligned with DSO incentives
  2. The methodology is **robust and transparent**
  3. **Targets are ambitious** and well evidenced
  4. The data underpinning the metrics is **verifiable and of high quality**
  5. There is **minimal risk of perverse incentives**
- We would also suggest adding:
  6. The scope and consumer benefit delivered by meeting a criterion is proportional to the weighting applied

Performance Panel Criteria

Our assessment of the intent of each criterion, and potential issues with the approach

Criterion	Presumed intent: Ensuring that…	Our concerns
Delivery of DSO benefits	• Actions being taken by the DSO put it on a **path to delivering direct benefits** to distribution customers and the **wider system/society**, and that at least some of these benefits are being delivered during RIIO-ED2. • There is **consistency around the assessment and reporting** of those benefits, enabling comparison between DSOs.	• This is a key DSO output, and arguably should have a higher weighting given that the other criteria are enabling this
Data and information provision	• DSOs increase the **amount of data** being made available to external stakeholders over time • The **scope, granularity and quality** of that data improves over time	• Makes sense in principle, provided quality is the focus, and that is does not turn into a box-ticking exercise
Flexibility market development	• DSOs are **developing and improving flexibility service products**, and are engaging with stakeholders to understand and eliminate barriers • DSO is using flexibility products that align – as far as possible – to the **industry standard**, minimising the complexity for flexibility providers operating nationally • DSOs are **not acting as gatekeepers**, by enabling third party market support services, and ensuring that DERs can provide services to multiple actors (inc. ESO) without unwarranted exclusivity	• No issue with continual improvement and standardisation of products (except that those two could be in conflict in some instances) • More concern that DSO expected to take responsibility for DER ESO service provision. Would prefer a check that DSO isn't being a blocker.
Options assessment and conflict of interest mitigation	• DSOs **identify and evaluate options** in a robust, fair and transparent way • DSOs **share the rationale** behind their decisions, and respond to stakeholder scrutiny • potential conflicts of interest are identified and addressed	• This is important, particularly in conjunction with the Market Testing Performance Metric, since it prevents DSOs for using CEM in a cursory way • We propose tiered levels to allow DNOs to carry out assessments efficiently
Distributed energy resources (DER) dispatch decision making framework	• DSOs **understand the characteristics of DER** contracted to provide flexibility services • **Dispatch logic is clear and transparent**, and that rules are adhered to (e.g. primacy) • **Dispatch controls are scalable**, and not 'hard coded' in Network Ops • **DER can and do participate in ESO markets**, and that DER dispatch is coordinated in a whole system manner	• Agree that it makes sense to ensure that dispatch is being done efficiently, and aligned with rules • Not sure that this criterion – as described – warrants the same weighting as the others

Market testing process

Market testing Performance Metric needs to allow for different levels of rigour

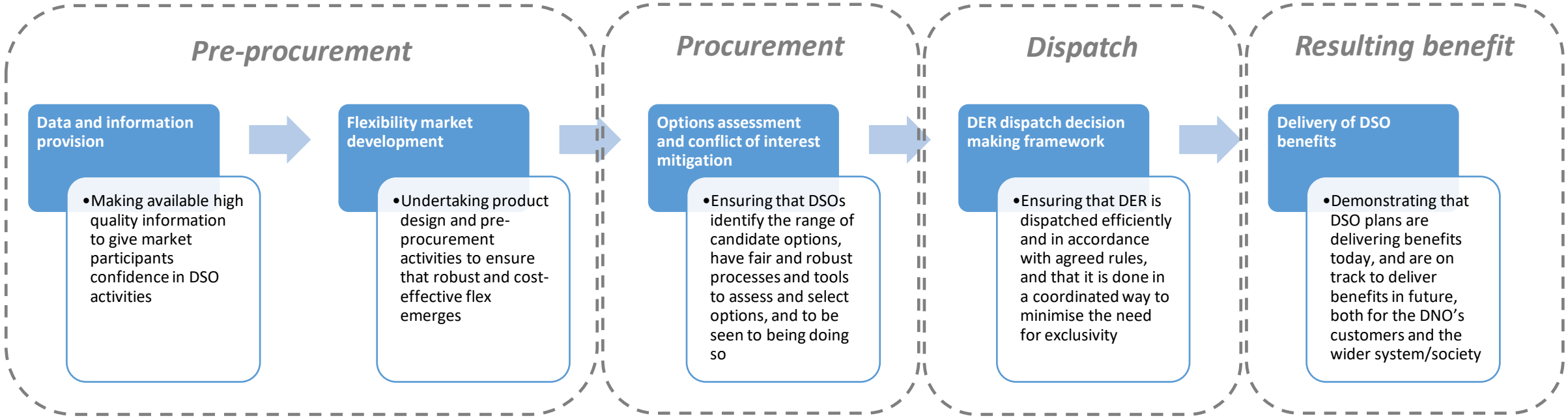
Increasing rigour

	Primary	Secondary
	At primary, all sites requiring intervention are assessed to determine whether flexibility is technically feasible and economically optimal. However, the level of effort required should depend on how finely balanced the decision is. Regardless of the 'tier', each decision is documented, and made accessible for scrutiny.	At secondary, individual sites will not be assessed for flexibility because a) the number of assessments would be too large, and b) the level of evidence is insufficient to justify a detailed assessment. DNOs should, however, be applying a strategy to use flexibility where it makes technical and economic sense. DSOs should be assessed on: 1. The extent to which their strategy is expected to deploy flexibility efficiently, and 2. The extent to which the DNO adheres to their strategy.
Tier 1 Technical filter	Sites rejected for flexibility because reinforcement is required for **engineering/technical reasons**, so no meaningful CBA can be undertaken. This might include sites where replacement is imminent.	A proportion of the portfolio of secondary substations will need to be reinforced for **engineering/technical reasons**, so there is no economic justification to be made.
Tier 2 Simple economic justification	For each site, viable engineering/commercial options are run through **simplified CEM tool** focusing on deferral benefit. If there is a stand-out preferred option, this is taken forward. Assertion documented that no additional complexity is expected to sway the decision. This tier might include sites that are technically suitable for flex, but require such large volumes that the market cannot credibly be developed.	For a proportion of the portfolio of secondary substation, flexibility – rather than reinforcement – will be more appropriate. We would expect the heuristics/rules of thumb underpinning the strategy to be relatively simple at first, but as markets develop, and the understanding of some of these elements improves, DNOs should be expected to factor in increasing levels of complexity: • **Deferral benefit:** Simple deterministic assessment of the value of reinforcement deferral • **Option value:** Additional value of flex under uncertainty, reflecting 1) the probability that a reinforcement becomes unnecessary, and 2) that future flex prices fall as markets mature. • **Losses and Carbon value:** Impact of flexibility on network losses and/or carbon emissions (either via losses or through wider system impacts)
Tier 3 Detailed economic justification	Where two or more options are somewhat finely balanced, additional **detail is included in the CEM tool**, and more sensitivity analysis undertaken (e.g. option value, losses, carbon).	

All reinforcement decisions should be market tested, but the level of effort needs to be commensurate with the likelihood that flexibility is a credible option

Performance Panel Criteria

Aligning criteria to DSO activity workflow

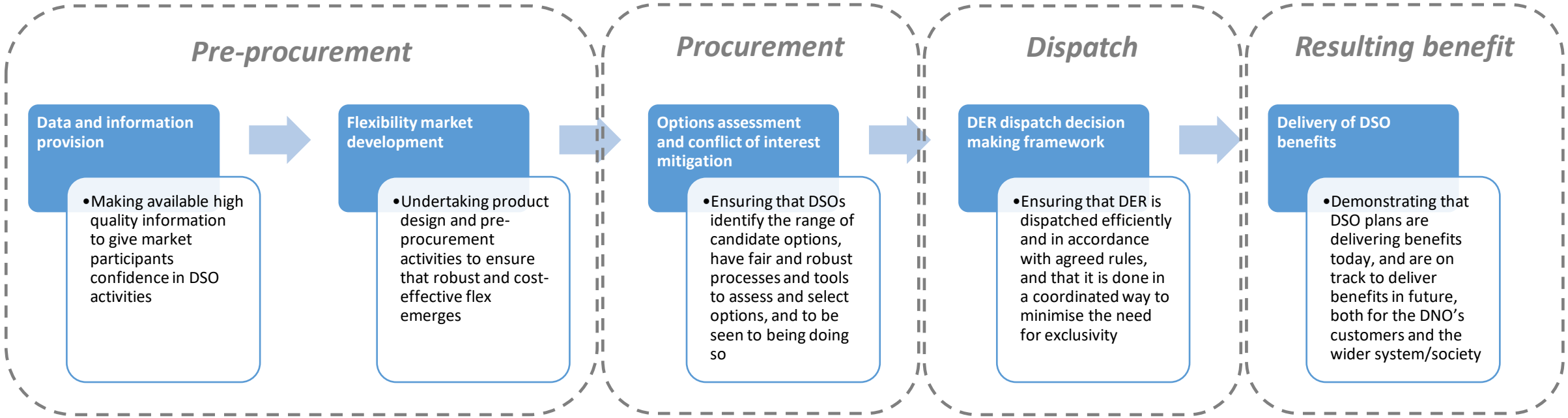


Proposed weighting	**15%**	**15%**	**25%**	**5%**	**40%**
Justification	• Pre-procurement as a whole should comprise ~30% of the benefit • Not covered as one of the Performance Metrics		• Covers a significant part of DSO activity, and is a key part of delivering benefits to customers • Needs to have weight since Flex Market Testing metric could become box-ticking without checks on quality	• Not a key determinant of benefits delivered • As written, contains links to ESO procurement that is beyond DSO's control	• This is the outcome that needs to be tracked to ensure DSO is delivering as intended • Performance Metrics do not track benefits, so this needs to be a significant part of the Performance Panel assessment

Weighting given to each Performance Panel Criterion should reflect both the effort required from the DSO, and the benefit that performing well would deliver for customers

Performance Panel Criteria

Ensuring RREs inform the Procurement Panel's decision-making



Relevant RRE	• Forecasting accuracy	• DNOA or equivalent decision outcomes	• DNOA or equivalent decision outcomes • Transformer utilisation • Capacity released through flexibility	• Transformer utilisation	• Transformer utilisation • Capacity released through flexibility
Relevant Performance Metric	• Network visibility		• Flexibility market testing	• Curtailment efficiency	

It would be useful to more formally show how the Performance Metrics and RREs relate to – and potentially inform – the Performance Panel assessment, and to ensure that collectively they encourage good behaviours across the range of DSO activities

Assessment criteria applied to 3 DNOs

Consistency is needed to understand what 'good' looks like, whilst recognising disparities in DSO potential

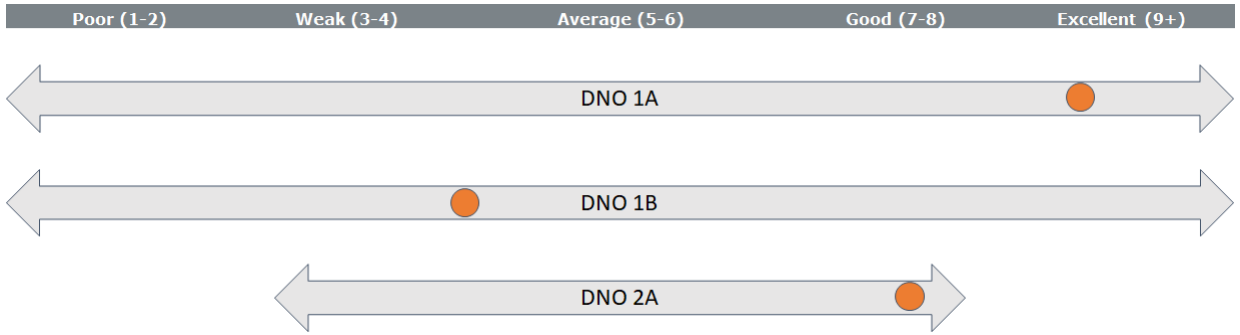
		DNO 1A	DNO 1B	DNO 2	Comments
		Rapid demand growth, constraints, viable flex market participants • **High DSO potential** • **High DSO performance**	Rapid demand growth, constraints, viable flex market participants • **High DSO potential** • **Low/medium DSO performance**	Slow demand growth, excess headroom, few or disparate potential flex providers • **Low/medium DSO potential** • **Low/medium DSO performance**	
	Supporting evidence	**Target and performance**	**Target and performance**	**Target and performance**	
Data and information provision	• Forecasting accuracy • **Network visibility**	High visibility and forecasting target, which this DNO outperforms	High visibility and forecasting target, but the DNO under-performs	Good data and visibility would be valuable, but visibility benchmark is lower.	***DNO1B could be doing better than DNO2 but score worse based on business plan and prior performance.***
Flexibility market development	• DNOA or equivalent decision outcomes	High need for flexibility justifies significant market development activity. Strong performance justifies high reward.	High need for flexibility justifies significant market development activity. Under-performance should lead to lower reward.	Lower need for flexibility means less customer benefit from developing a flex market. Difficult and not cost-effective to out-perform, so likely to score poorly.	***Less customer benefit from flex justifies less activity from DNO2, but implies that upside should also be limited in their case***
Options assessment and conflict of interest mitigation	• DNOA or equivalent decision outcomes • Transformer utilisation • Capacity released through flexibility • **Flex market testing**	High potential to use flex, which it does both as a proportion of its intervention activity, and in absolute terms.	High potential to use flex, but does less than it could because it fails to run an effective market testing process, and because it has not (in the preceding phase) developed the market for flex.	Low reinforcement and connections activity means lower opportunity for flex. Scores relatively well because most measures are about the absolute volume of flex used.	***Most measures are neutral to absolute flex numbers. Conflicts only arise if a DNO needs to manage its own constraints. DNO 2 at risk of an easy ride.***
DER dispatch decision making framework	• Transformer utilisation • **Curtailment efficiency**	High volumes of procured flex and flexible connections. Relatively high volumes of dispatch would be expected, although some procurement undertaken to build the market could depress performance here.	Medium volumes of procured flex and flexible connections, with less ambitious market development. Could perform better than DNO 1A by being more targeted about where flex is procured.	Low flex contracting and few flexible connections means sample is small. Dispatch logic could be good, but little benefit for customers.	***Dispatch (and dispatch error) and curtailment all linked to nature and volume of flex procurement. Need to ensure that a highly active DSO is not penalised because it has high volumes.***
Delivery of DSO benefits	• Transformer utilisation • Capacity released through flexibility	DSO presents a high potential benefit for customers, which DNO 1A delivers on, and therefore performs well.	DSO presents a high potential benefit for customers, which DNO 1B under-delivers on, so is scored down.	DSO presents a limited (but not negligible) potential benefit for customers. Flex reward should be limited both in upside and downside. Timely reinforcement should still be incentivised.	***This is the key outcome that should be most strongly incentivised. All DNOs should be reinforcing only when required, but overall DSO benefit may vary across regions, so both reward and penalty might need to be adjusted accordingly, rather than simply setting easier targets.***

Need to distinguish between DNOs with low DSO potential vs those with low DSO ambition. Need to set targets that encourage DNOs to reach their maximum potential whilst not encouraging activity that is not delivering a benefit to consumers

Recognising different DSO potential

DSO potential varies across DSOs: there are different ways to account for this across the incentives

1. **Minimum entry requirement:** A DNO only becomes eligible for an incentive/penalty if it has a certain level of DSO activity, however, this could lead to perverse behavior
2. **Variable revenue weightings:** Give DNOs different amounts of revenue at stake depending on the DSO potential
3. **Varying scope for over/under-performance:** Keep weightings constant, but only expose most active DSOs to full range of potential outcomes
4. **Different targets:** Link targets to Business Plan (n.b. this risks conflating low potential with low ambition)



There are different ways to account for the fact that the potential for DSO varies across DNOs. Care should be taken to ensure in taking account of this, DNOs are not penalised for exhibiting high ambition around DSO