Challenge Group

ENA Open Networks

21st January 2025

Agenda

1	13:30	13:35	5	**Welcome** -Zonerah Mahmood (ESC) **Apologies** - Joseph Cosier (Ofgem)	Hussein Osman (Challenge Group Chair)
2	13:35	13:40	5	**Recent industry developments**	Hussein Osman (Challenge Group Chair) & All
3	13:40	13:55	15	**Market Facilitator Update**	Hussein Osman (Challenge Group Chair)
4	13:55	14:15	20	**Primacy Rules**	Evangelos Karagiannis (UKPN)
5	14:15	14:35	20	**Dispatch Interoperability**	Joe Davey (NG ED) & Tim Manandhar (UKPN)
6	14:35	14:45	10	**Quick working group updates**	Reece Breen Begadon (ON Technical Project Manager, ENA)
7	14:45	14:50	5	**AOB**	All

Recent Industry Developments

Market Facilitator Update

Hussein Osman (Challenge Group Chair, Elexon)

Primacy Rules

Evangelos Karagiannis (UKPN)

(working group lead)

Services in Scope

Service Area	Service	Data Available in SMP?	In Scope?
Frequency	Balancing Reserve	Yes	Yes
Frequency	Static Firm Frequency Response	Yes	Yes
Frequency	Dynamic Containment	Yes	Yes
Frequency	Dynamic Moderation	Yes	Yes
Frequency	Dynamic Regulation	Yes	Yes
Thermal	MegaWatt Dispatch	Yes - But not the auction stack	Yes – but using assumptions to calculate costs in CBA
Frequency	Quick Reserve	No	Yes – but using assumptions to calculate costs in CBA
Frequency	Slow Reserve	No	Yes – but using assumptions to calculate costs in CBA
Stability	Long Term Stability Y_4	Not Planned	No, likelihood of conflict low because of long term markets
Stability	Stability Pathfinders	Not Planned	No, no data and programme to develop future services, low volumes procured, low likelihood of conflict
Voltage	Voltage Pathfinders	Not Planned	No, no data and programme to develop future services, low volumes procured, low likelihood of conflict
Restoration	Distributed Restart	Not Planned	No, very low volumes procured, low likelihood of conflict
Restoration	Electricity System Restoration Events	Not Planned	No, low volumes procured, low likelihood of conflict
Voltage	Reactive Power Long Term Markets	Not Planned	No, likelihood of conflict low because of long term markets
Thermal	Constraint Management Intertrip Service	Not Planned	No, low volumes procured
Stability	Mid-term Stability	Not Planned	No, likelihood of conflict low because of long term markets
Voltage	Reactive Power Mid Term Market	Not Planned	No, likelihood of conflict low because of long term markets
Voltage	Reactive Power Short Term Market	Not Planned	No, no data
Stability	Short Term Stability D-1	Not Planned	No, no data
Thermal	Local Constraints Market	Not Planned	No, still a work in progress
Thermal	Constraints Collab Project	No	No, still a work in progress

Translating into use cases

	NESO positive flexibility		NESO negative flexibility	
Export-constrained distribution network: DSO/ANM is, or is close to, effecting negative flexibility	**Case 1**		**Case 2**	
	Conflict case: DSO counters NESO action with negative flexibility to manage thermal constraint		**Conflict case:** DSO counters NESO action with positive flexibility to absorb newly-created headroom, reducing the curtailment of customers in the area	
	DSO primacy: NESO opts out of dispatching positive flexibility from the area	**NESO primacy:** NESO can only dispatch positive flexibility if headroom has first been created on the constrained distribution network	**DSO primacy:** NESO opts out of dispatching negative flexibility from the area, so the DSO takes no action and no curtailment reduction occurs	**NESO primacy:** NESO dispatches negative flexibility, and the DSO ensures that is does not release the newly-created headroom to customers being curtailed
Import-constrained distribution network: DSO is, or is close to, effecting positive flexibility	**Case 3**		**Case 4**	
	Conflict case: DSO counters NESO action with negative flexibility to absorb newly-created headroom, reducing demand turn-down in the area		**Conflict case:** DSO counters NESO action with positive flexibility to manage thermal constraint	
	DSO primacy: NESO opts out of dispatching positive flexibility from the area, so the DSO takes no action and no demand turn-down reduction occurs	**NESO primacy:** NESO dispatches positive flexibility, and the DSO ensures that it does not reduce demand turn-down in response or release the newly-created headroom to customers being curtailed	**DSO primacy:** NESO opts out of dispatching negative flexibility from the area	**NESO primacy:** NESO can only dispatch negative flexibility if headroom has first been created on the constrained distribution network

Conflict Cases – The rule that makes sense

Summary of outputs of CBA for core cases

These cases largely consider conflicts at distribution thermal limits.
Under technical limits or cases where NESO/DNO has specific stability needs (e.g. inertia) the primacy rule that makes sense technically and could be altered because of actions at the point of implementation of the rule being different.

	Case 1 and 4	Case 2 and 3
Conflict case	**Conflict case 1:** DSO counters NESO action with negative flexibility to manage thermal constraint **Conflict case 4:** DSO counters NESO action with positive flexibility to manage thermal constraint	**Conflict case 2:** DSO counters NESO action with positive flexibility to absorb newly-created headroom **Conflict case 3:** DSO counters NESO action with negative flexibility to absorb newly-created headroom

Primacy rule with optimal CBA	**Optimal approach: DSO primacy**
	DSO primacy leads to the best net benefit on a whole system basis. The actions required to enable NESO primacy (holding additional curtailment during the service window, and paying for rebalancing from elsewhere on the transmission network) create significant additional costs. Whilst DSO primacy imposes costs on the NESO, these costs are lower than those under DSO primacy under any reasonable price assumptions considered.
		Optimal approach: **NESO primacy**
		NESO primacy leads to higher net benefits in this case:
		• Compared with DSO primacy, NESO primacy does not require any additional flexibility or curtailment to avoid unwinding the NESO action
		• However, both DSO primacy and NESO primacy result in more curtailment than would occur under 'no primacy'
		• Whilst there is no difference between DSO primacy and NESO primacy in terms of the opportunity cost of curtailed assets, they do have different implications in the compensation that curtailed assets might be entitled to:
		  • Under DSO primacy, the NESO actions that would otherwise create headroom are no longer taken. Even though this results in more curtailment (compared to 'no primacy') it is unlikely that curtailed assets would expect or be entitled to compensation
		  • Under NESO primacy, the headroom is being created, just as it would be under 'no primacy'. The DSO is preventing that headroom from being released to curtailed customers. Depending on how DCUSA and customer connection agreements are interpreted, this may required compensation to be paid to those customers.
		• Even if compensation were paid under NESO primacy, this would not change the whole system CBA, since it would represent a transfer of revenue to the curtailed customers from the NESO or DSO, and would not change the overall benefit of the approach.

What next?

- It has been possible to identify the preferred primacy rule under each use case, however implementing either DSO and NESO primacy requires investment.
- In some cases it also involves making changes to ANM systems to allow them to adjust their notional headroom based on NESO actions, changing the Principles of Access to prioritise some assets over others, as well as changes to NESO systems.
- Further work is required to understand the technical changes required and the costs involved.
- Additional data is required to understand the prevalence of DSO-NESO conflicts and hence the value that implementing these primacy rules could create.

Dispatch Interoperability

Joe Davey (NG ED) & Tim Manandhar (UKPN)

(joint working group leads)

Overview

Agenda
Progress update
Flex Dispatch approach and Stakeholder learning
Appendices

Dispatch System Interoperability – Our Journey so far

OpenADR 3.0

Dispatch Alignment Recommendations **June 2022**

Industry consultation **Sep 2022**

Technical Working Group kick-off **Mar 2023**

Proposal paper and Scope of Works **Apr 2023**

PNDC on-boarded **July 2023**

Focus group engagement **Aug – Sep 2023**

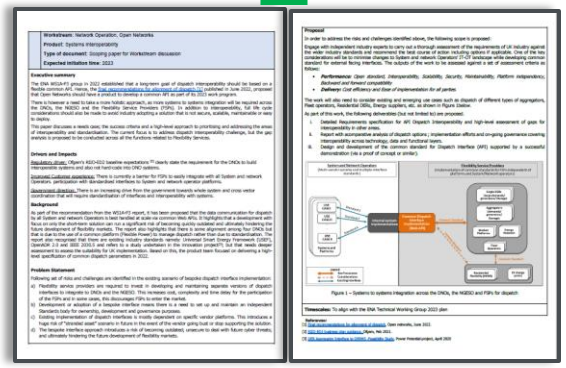
PNDC findings report **Nov 2023**

Detailed tech options analysis **Jan – Apr 2024**

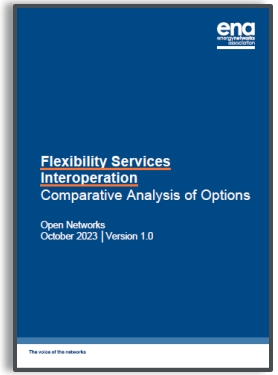
MVP scope proposal **(May 2024)**

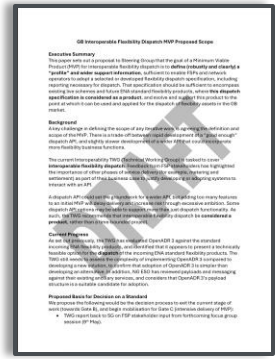
Mobilise Delivery **(Oct 2024 - Present)**

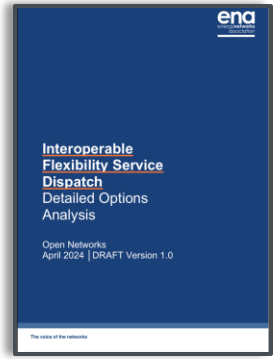
2022 report



2 page paper

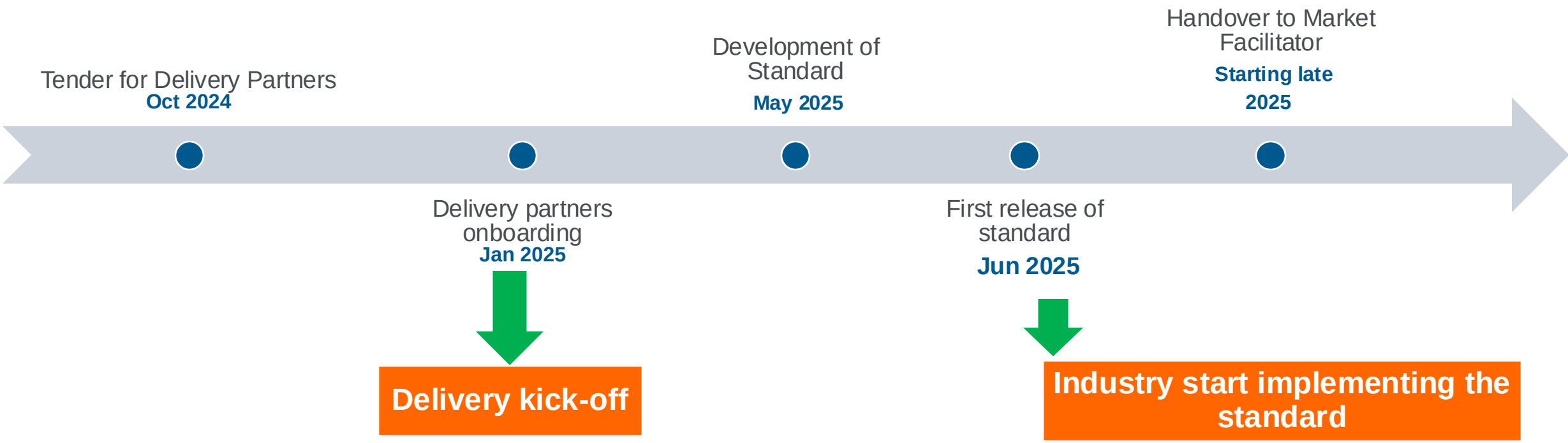




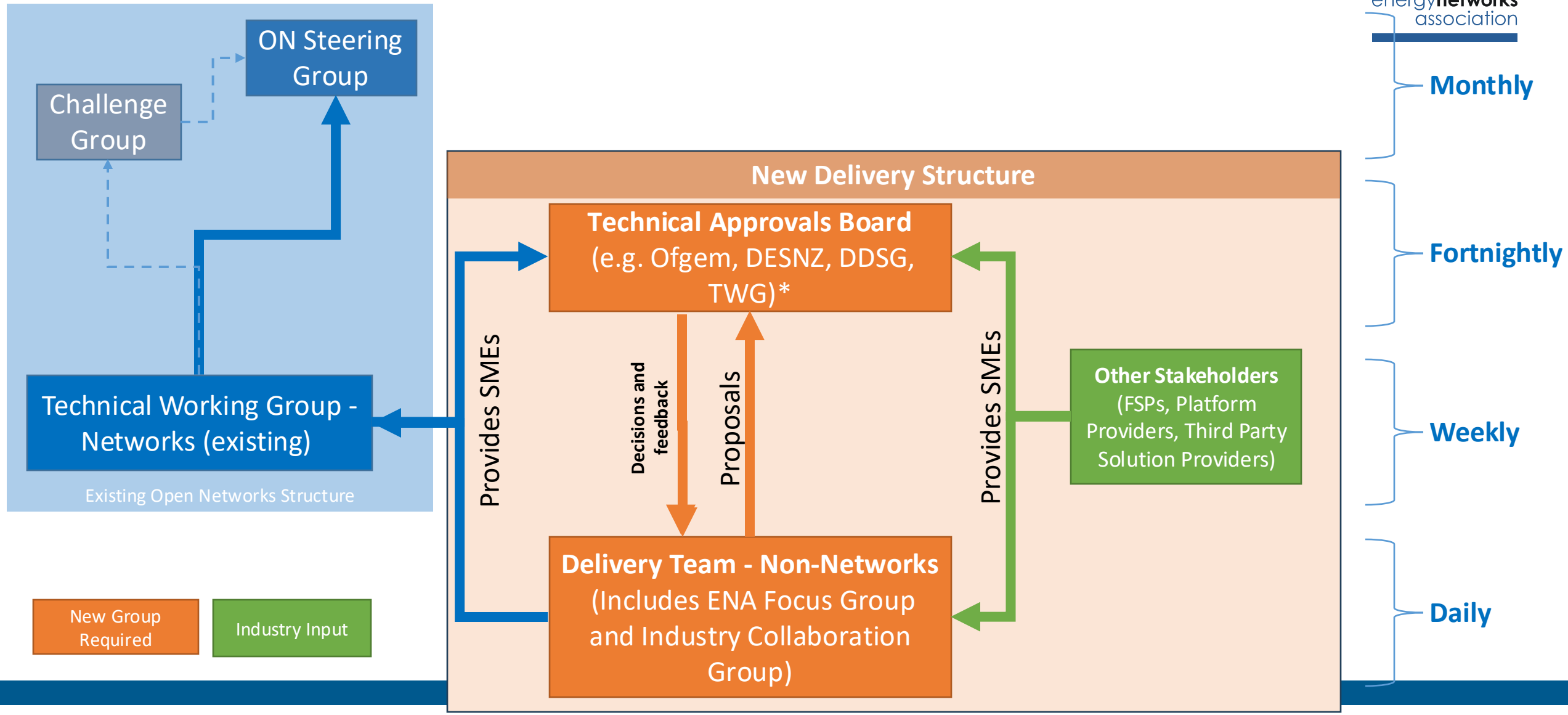


Options Comparison

ENA Dispatch System Interoperability – Roadmap



Proposed Governance Structure



Focus areas for delivery

- **3 separate work packages defined to deliver the standard**
  - Programme Management (Governance & Stakeholder Management)
  - Technical Delivery (Develop Standard & Reference Implementation)
  - Independent security (cyber) assurance

- **Collaborate FSPs & key Industry stakeholders to co-design and test the standard**

- **Support Industry implementation (Individual network company responsible)**

Delivery Approach (20-30 weeks)

1. Programme Management, Governance & Stakeholder Engagement

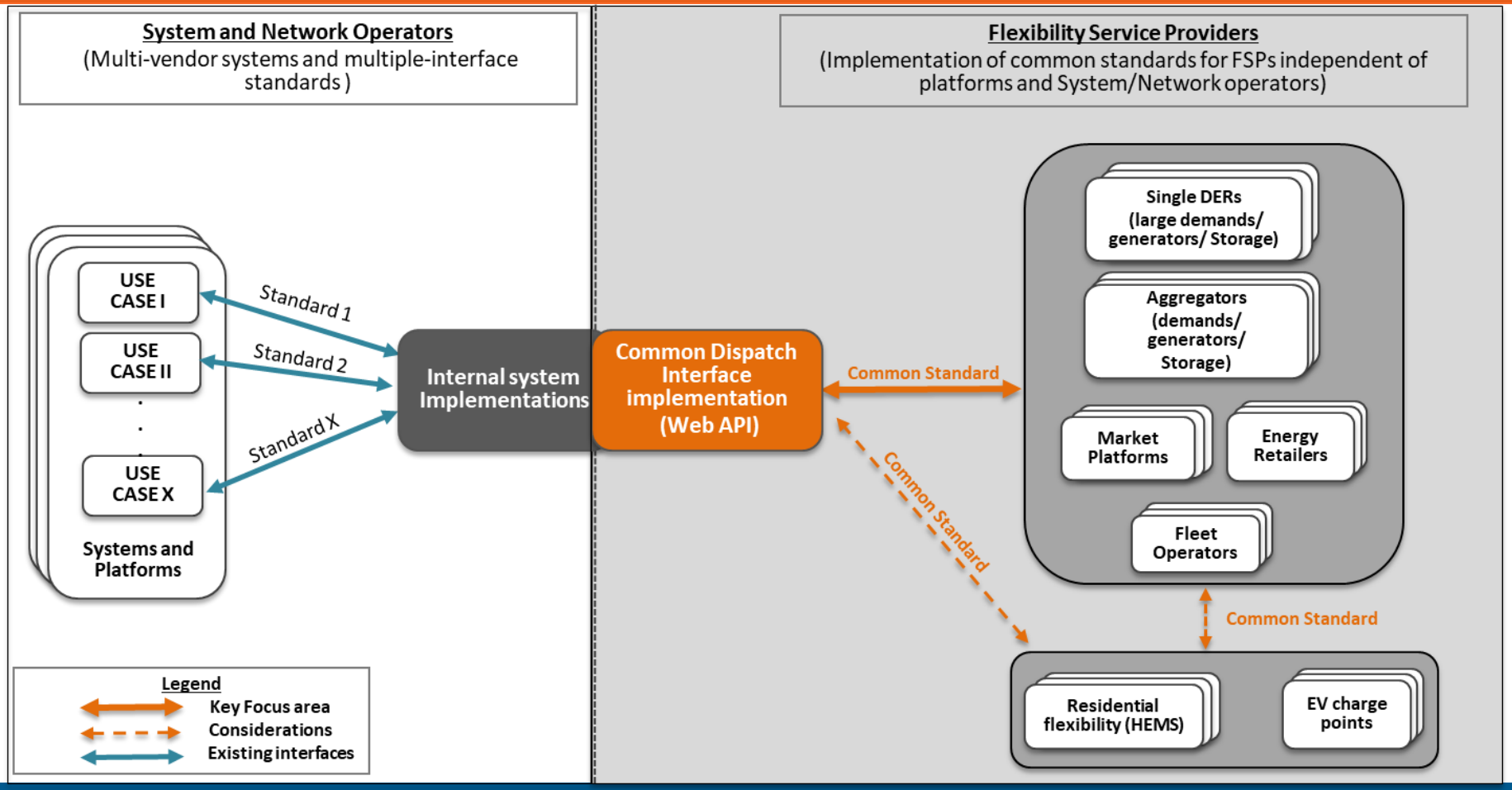
2. Technical Standard Delivery

- Technical & Security Architecture
- Product Dispatch Profiles
- Reporting Profiles
- Product to report mappings
- Endpoint Behaviour Definitions
- Reference Implementation

3. Independent Security (Cyber) Assessment

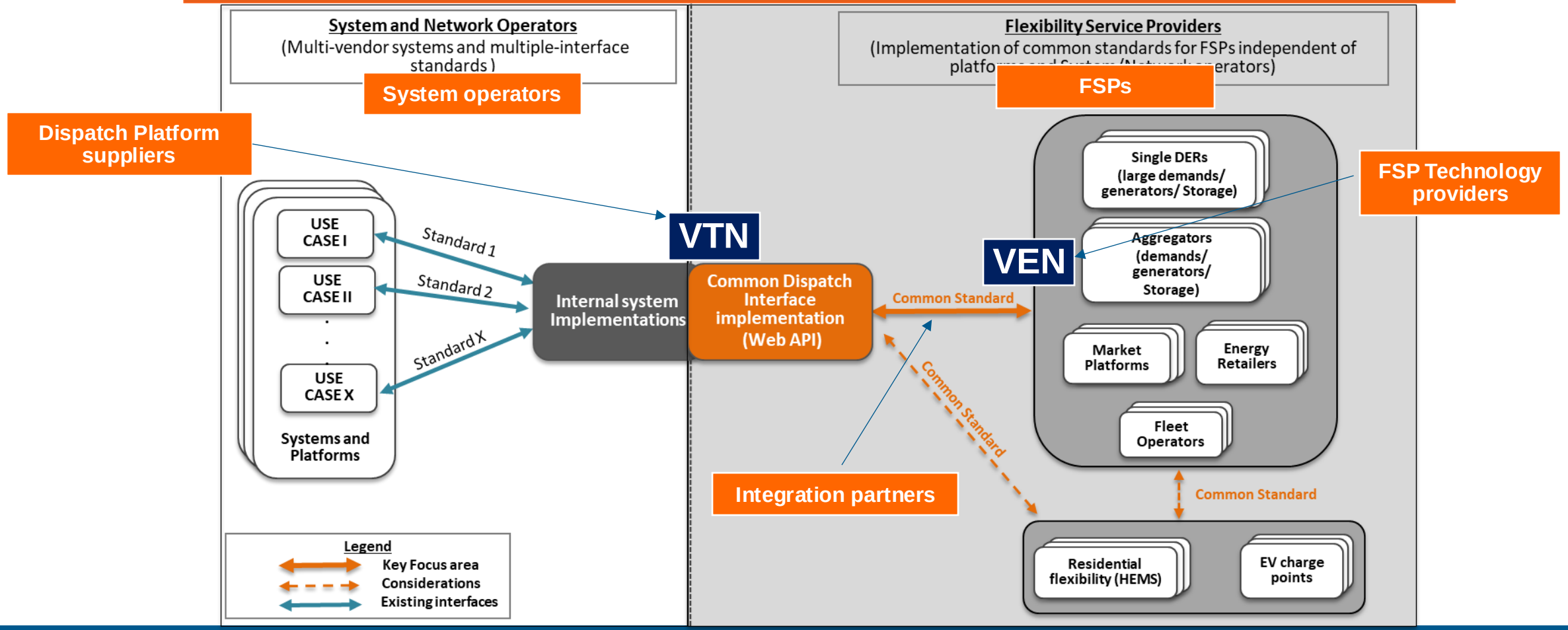
Flex Dispatch standardisation: What is in the ENA Scope?

Key Focus area is the network operator ➔ Flexibility Services interface standard

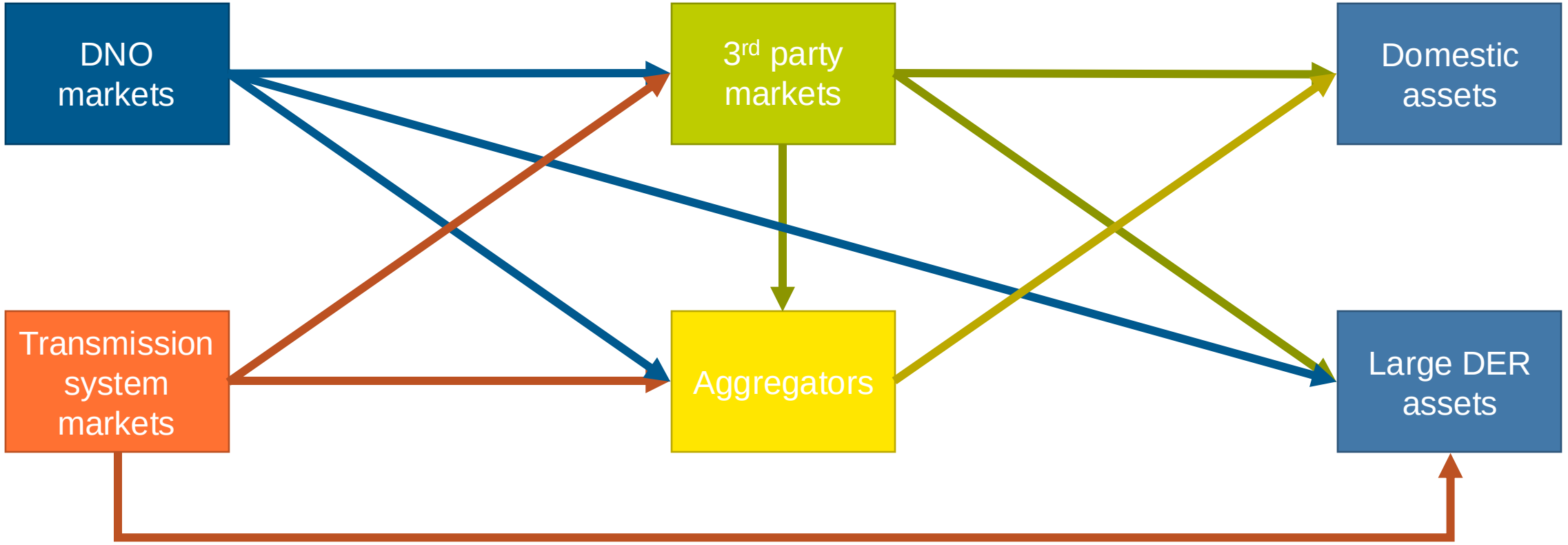


Actors involved

Key Focus area is the network operator ➔ Flexibility Services interface standard

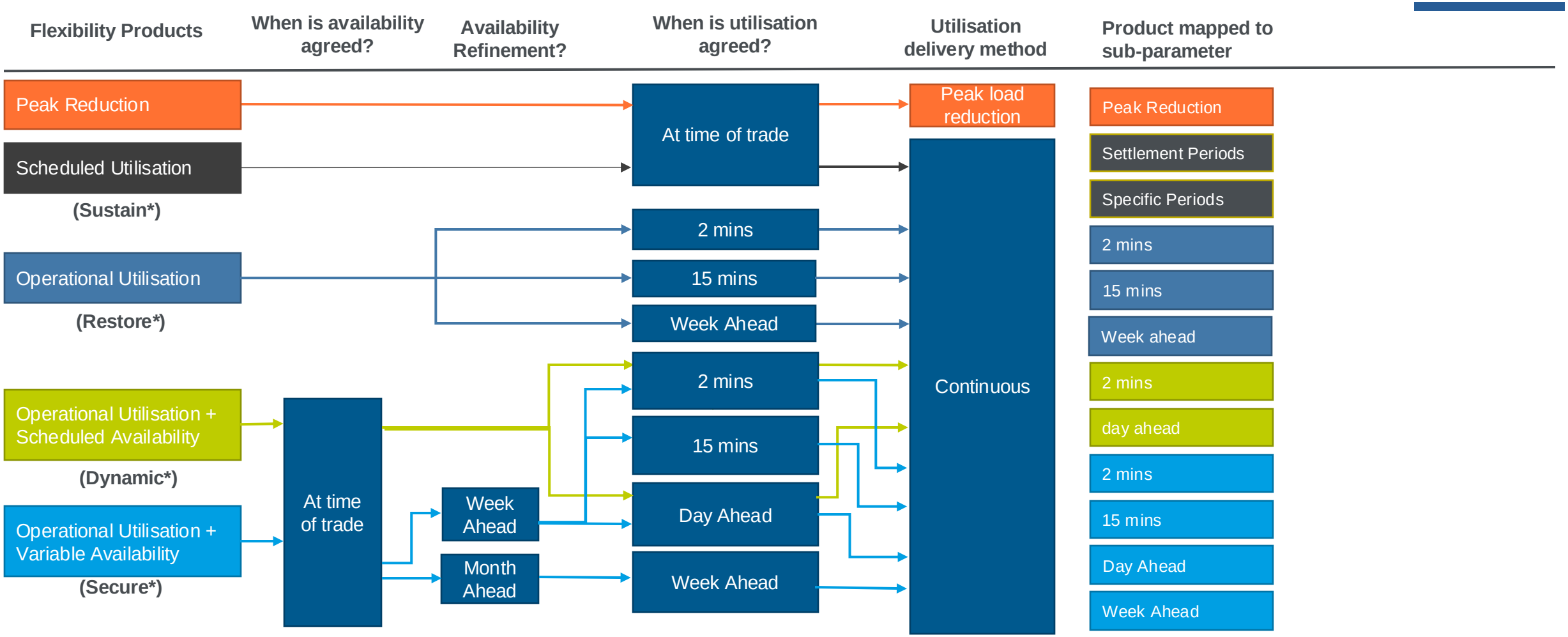


UK Flexibility Service Markets



Standardisation of Flexibility products

Flexibility products in operation



*The new products are not a 'like-for-like' rebranding of old products. The mapping is for better understanding only.

Questions

Quick working group updates

Reece Breen Begadon (ON Technical Advisor, ENA)

AOB

Energy Networks Association
4 More London Riverside
London SE1 2AU
t. +44 (0)20 7706 5100

@EnergyNetworks
energynetworks.org

The voice of the networks