

Common Evaluation Methodology Good Practice Guide

Open Networks

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DOCUMENT CONTROL

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Related documents

1	Common Evaluation Methodology Statement
2	Common Evaluation Methodology User Guide
3	Common Evaluation Methodology Tool

Change history

Version	Description
0.1	Circulated for review; minor amendments
1.0	Finale version circulated for approval

Distribution

Public

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About ENA

Energy Networks Association (ENA) represents the owners and operators of licenses for the transmission and/or distribution of energy in the UK and Ireland. Our members control and maintain the critical national infrastructure that delivers these vital services into customers' homes and businesses.

ENA's overriding goals are to promote UK and Ireland energy networks ensuring our networks are the safest, most reliable, most efficient, and sustainable in the world. We influence decision-makers on issues that are important to our members. These include:

- Regulation and the wider representation in UK, Ireland, and the rest of Europe
- Cost-efficient engineering services and related businesses for the benefit of members
- Safety, health and environment across the gas and electricity industries
- The development and deployment of smart technology
- Innovation strategy, reporting and collaboration in GB.

As the voice of the energy networks sector, ENA acts as a strategic focus and channel of communication for the industry. We promote interests and good standing of the industry and provide a forum of discussion among company members.

About Open Networks

Britain's energy landscape is changing, and new smart technologies are changing the way we interact with the energy system. Our Open Networks programme is transforming the way our energy networks operate. New smart technologies are challenging the traditional way we generate, consume, and manage electricity, and the energy networks are making sure that these changes benefit everyone.

ENA's Open Networks programme is key to enabling the delivery of Net Zero by:

- opening local flexibility markets to demand response, renewable energy and new low-carbon technology and removing barriers to participation
- providing opportunities for these flexible resources to connect to our networks faster
- opening data to allow these flexible resources to identify the best locations to invest
- delivering efficiencies between the network companies to plan and operate secure efficient networks.

We are helping transition to a smart, flexible system that connects large-scale energy generation right down to the solar panels and electric vehicles installed in homes, businesses, and communities right across the country. This is often referred to as the smart grid.

The Open Networks programme has brought together the nine electricity grid operators in the UK and Ireland to work together to standardise customer experiences and align processes to make connecting to the networks as easy as possible and bring record amounts of renewable distributed energy resources, like wind and solar panels, to the local electricity grid.

The pace of change Open Networks is delivering is unprecedented in the industry, and to make sure the transformation of the networks becomes a reality, we have created six workstreams under Open Networks to progress the delivery of the smart grid.

Our members and associates

Membership of Energy Networks Association is open to all owners and operators of energy networks in the UK.

- Companies which operate smaller networks or are licence holders in the islands around the UK and Ireland can be associates of ENA too. This gives them access to the expertise and knowledge available through ENA.
- Companies and organisations with an interest in the UK transmission and distribution market are now able to directly benefit from the work of ENA through associate status.

ENA members



ENA associates

- [Chubu](#)
- [EEA](#)
- [Guernsey Electricity Ltd](#)
- [Heathrow Airport](#)
- [Jersey Electricity](#)
- [Manx Electricity Authority](#)
- [Network Rail](#)
- [TEPCO](#)

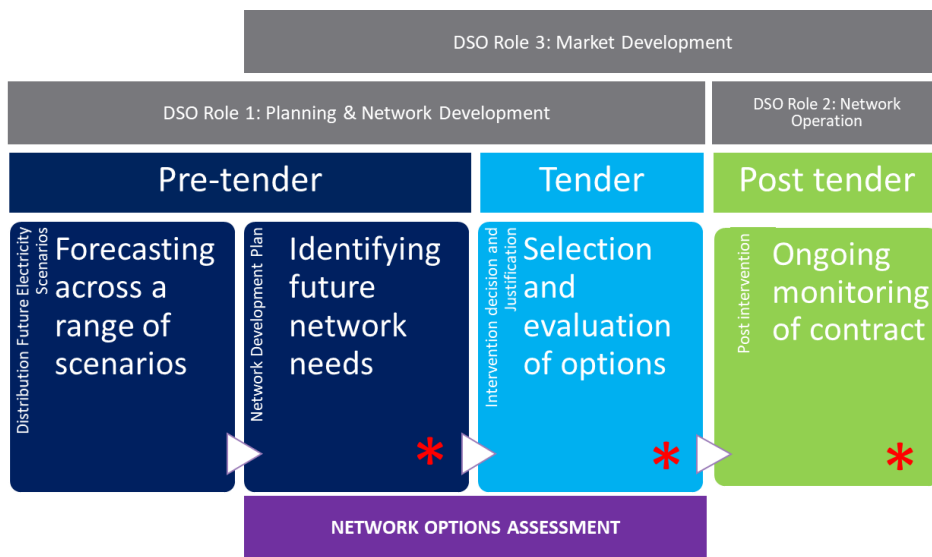
Executive Summary

It was recognised in 2019 that there was a range of cost benefit methods being employed across GB distribution network operators (DNO) to evaluate whether flexibility services were the optimal solution for mitigating an identified network need. In 2020 the Open Network Project initiated a product, within Workstream 1A (Flexibility), to create a common methodology for use by all GB DNOs.

On 31 December 2020 the Open Network Project published the Common Evaluation Methodology (CEM) and a Microsoft Excel workbook Tool for use by the DNOs from 1 April 2021. Various materials associated with CEM and Tool are available to download from the ENA website, with weblinks included in Appendix 4.

This is the first version of the Good Practice Guide for the application of the CEM and Tool. But it is expected that as the use of the CEM and Tool increases over time and the methodology and tool may need to be amended in response to changing requirements (e.g. real-time procurement of flexibility services) further versions will be written to capture the knowledge and experience in the use of the CEM and Tool.

The graphic below shows the high-level process for the release of capacity using flexibility services, highlighting the stages where the CEM and Tool are utilised. The stages have been shown in the context of Ofgem defined distribution system operation (DSO) roles, but also cross-referenced to the areas highlighted as part of the distribution network options assessment.



* Stages where the CEM Tool is utilised

GB DNOs are leading the way in being transparent and open with their investment decision-making tools, which compare traditional reinforcement with flexibility services. The guide has been written to improve the awareness and understanding of industry stakeholders such as policy makers, network companies, system operators, flexibility services providers, wider industry stakeholders, etc.

This Good Practice Guide explains why and how the CEM and Tool is used within the three stages of Pre-tender, Tender and Post-tender. An illustrate example is included within the Guide to bring to life the application of the CEM and Tool in these three stages.

We would welcome feedback on this Guide, by sending an email to opennetworks@energynetworks.org.

Purpose and objective

The purpose of this guidance document is to outline a good practice approach for the use of the Common Evaluation Methodology and Tool by Distribution Network Operators (DNO) in undertaking their Distribution System Operation (DSO)¹ activities in the evaluation of intervention options for mitigating a network need.

This guidance was developed in response to the stakeholder feedback from the '[Consultation on valuing optionality in the WS1A \(Workstream 1A\) Common Evaluation Methodology](#)' published on 8 March 2022 and the associated [online seminar](#) held on the same day. The feedback from a wide range of stakeholders sought further clarity on the scope and use of the tool; a summary of the feedback is published in this [report](#). In addition, the Product team (identified as WS1A P1 (Product 1)) for the Common Evaluation Methodology and the Product team (identified as WS4 P1) for the Whole System CBA (Cost Benefit Analysis) have collaborated to develop and publish on 25 April 2022 an [interactions report](#) which highlighted the key features of the two evaluation tools, including their interactions and interdependencies to address some of the outstanding issue of clarity raised by stakeholders.

The intention of this document is to show that the DNOs are using the Common Evaluation Methodology and Tool in a consistent manner when evaluating intervention options. This is especially important because it provides reassurance to the flexibility services providers that the DNOs are being open and transparent in their decision-making and showing that they truly are acting as neutral market facilitators when undertaking their DSO activities.

Background

Collectively Britain's distribution network operators have agreed to make flexibility the first option when seeking solutions for all new projects of significant value. This was formalised in December 2018 when the ENA's Flexibility Commitment was launched, and all signatories committed to openly test the market to compare relevant grid reinforcement and market flexibility solutions.

In July 2019 the ENA followed up their earlier announcement with additional guidance on the next steps required. The booklet titled "[Our six steps for delivering flexibility services](#)" detailed plans and commitments to continue working extensively and inclusively with stakeholders, sharing our flexibility developments, and listening to wide reaching feedback.

The six steps identified were selected to ensure consistent, tangible processes, procedures and agreed working methodologies by all participating electricity networks through the ENA Open Networks Project. These were:

- Champion a level playing field
- Ensure visibility and accessibility
- Conduct procurement in an open and transparent manner
- Provide clarity on the dispatch of services
- Provide regular, consistent, and transparent reporting
- Work together towards whole energy system outcomes.

Through the ENA Open Networks project work completed under Workstream 1A (WS1A) – Flexibility Services is helping meet these commitments, and specifically the output from Product 1 (P1) – Common Evaluation Methodology is helping realise points 1 to 3.

¹ Ofgem set down the DSO roles, activities and baseline expectations in Appendix 4 (DSO roles and activities in RIIO-ED2) of the RIIO-ED2 Business Plan Guidance in September 2021.

In 2020 WS1A P1 delivered a first version of the CEM and associated Tool. This allowed the user to assess the viability of flexible vs non-flexible (i.e. conventional network reinforcement) options to meet their existing and future network needs. From April 2021 all DNOs committed to using the CEM to evaluate flexibility, a significant milestone in the flexibility journey.

The CEM and Tool was well received by stakeholders and suggestions were made on how the tool could be further enhanced; these included 1) the need for show the option value (especially under conditions of load growth uncertainty) and 2) an expansion on the calculation of carbon impact assessment (i.e. making the inputs and calculations more explicit and standardised). This feedback was incorporated into the scope for 2021 and the outcome/deliverable being the publication of the second version of the [CEM and Tool](#) in January 2022.

In March 2022 the '[Consultation on valuing optionality in the WS1A Common Evaluation Methodology](#)' was published seeking views on the next steps for the development of the CEM and Tool. The feedback from a wide range of stakeholders sought further clarity on the scope and use of the tool; a summary of the feedback is published in this [report](#). This good practice guide has been written to improve the awareness and understanding of stakeholders with regards to the feedback points raised in their responses.

The CEM, Tool and associated materials such as the User Guide are live documents and will continue to evolve.

Scope

The CEM and supporting Excel based tool ([CEM Tool v2.2: 25 Aug 2022](#)) is intended to deliver consistency in how DNOs evaluate network investment options and supports the ENA's wider goal to facilitate visibility and accessibility and ensure network operators conduct procurement in an open and transparent manner.

The [Common Evaluation Methodology statement](#) details the evaluation framework and how the key elements of methodology come together to make up the common evaluation methodology. The inputs to the methodology are defined and explained, as the outputs of the methodology to aid understanding of operation of the CEM Tool.

The primary purpose of the CEM Tool is to allow the user to assess the merits of deferring reinforcement (or similar capex solutions) by employing flexibility services for one or more years, although it can be used for evaluating a range of intervention options. The model allows the user to test different flexibility strategies under different load growth scenarios. It also provides insights that should help the user to make strategic decisions when uncertain about which network load growth scenarios will outturn.

The [User Guide](#) provides guidance on how to populate and interpret each tab within the Excel based CEM Tool.

Evaluation use cases

To aid understanding of the practical application of the Common Evaluation Methodology and how they are used to evaluate a number of network intervention types the ENA has defined and developed a set of simplified and illustrative Use Cases for the CEM Tool. Appendix A in the [Common Evaluation Methodology statement](#) describes each of the use cases and there is an accompanying CEM Tool workbook for each use case. Five simplified uses cases were developed and published in December 2020; these were:

- Use Case 1: Evaluating flexibility to defer traditional reinforcement,
- Use Case 2: Evaluating flexibility to mitigate incentive related investment,
- Use Case 3: Evaluating energy efficiency to defer traditional reinforcement,

Use Case 4a²: Evaluating DNO funded traditional reinforcement against an ANM (Active Network Management) solution, and

Use Case 4b: Evaluating flexibility against connection driven traditional reinforcement.

The CEM Tool workbooks for the Use Cases are available from the [ENA Resource Library](#). Note, the [User Guide](#) provides guidance on how to populate and interpret each tab within the Excel based CEM Tool.

As stated above, the primary use case for the CEM Tool is the evaluation of flexibility services compared against the option of network reinforcement. Table 1 below shows the linkage between the developed use cases and the four³ common Distribution Flexibility Services products, as developed under the ENA Open Networks Project and implemented by the GB distribution network operators.

Table 1: Summary of the characteristics and parameters for each of the distribution flexibility services, subject to potential update from ON22-WS1A Product 6

Name of Flexibility Service	Network condition	Payment structure		Counterfactual network solution	Planned outage	CI/CML	Use case reference
		Availability	Utilisation				
Sustain	Pre-fault		Yes	Network reinforcement			Use Cases 1 or 4b
Secure	Pre-fault	Yes	Yes	Network reinforcement	Yes		Use Cases 1 or 4b and/or Use Case 2 to manage risk for planned outages
Dynamic	Post fault	Yes*	Yes	Network reinforcement	Yes		Use Case 1 and/or Use Case 2 to manage risk for planned outages
Restore	Post fault		Yes	Mobilisation of generation		Yes	Use Case 2 to mitigate CI/CML impact
Reactive ³ power	Pre-fault / Post fault		Yes	Network reinforcement			No reference as new service being trialled by SPEN

**Note for UKPN under the Dynamic Product pre-fault activation is also possible and no availability payment is made*

In the March 2022 consultation responses, a stakeholder explicitly sought further clarity on the use of the CEM Tool to evaluate energy efficiency. It should be noted that Use Case 3 considers the evaluation of energy efficiency against traditional reinforcement. Individually the DNOs submitted proposals for developing energy efficiency products and programmes of work, in their RIIO-ED2 Final Business Plans, and references to these proposals have been included in Annex 4. Several DNOs have commented that they currently allow energy efficiency providers to submit energy efficiency responses to their flexibility tenders, treating them as permanent demand side response. The Product team may revisit in RIIO-ED2 the production of a real-world example to show how energy efficiency projects are evaluated using the CEM Tool.

² Note, Use Case 4a will be become redundant with the introduction of the Access SCR changes due to be implemented on 1 April 2023.

³ Note, Reactive Power Services is being trialled by Scottish Power Energy Networks. It is expected that the Open Networks Project, and therefore the GB DNOs, will continue working to standardise reactive power as a flexibility service.

Describing the use of Common Evaluation Methodology within the DSO Roles and the Network Options Assessment

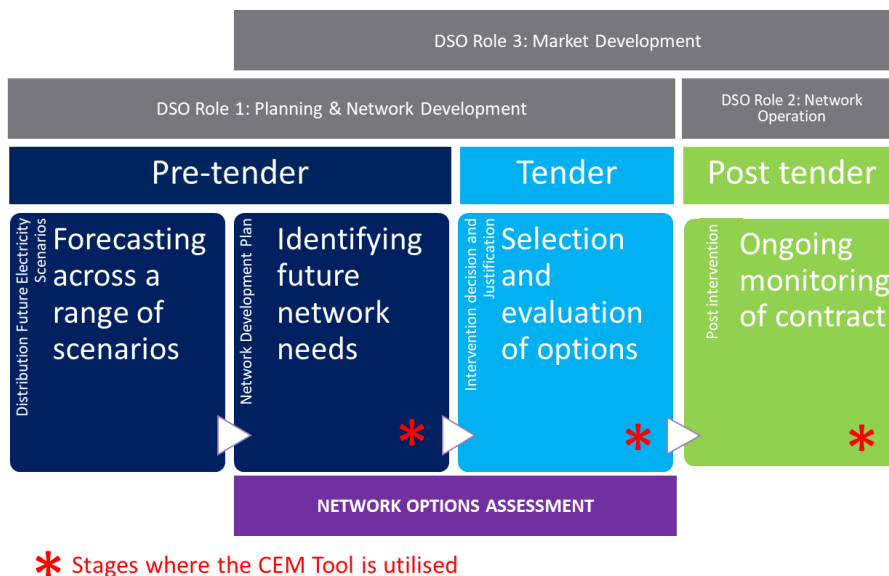
In Ofgem’s [RIIO-ED2 Business Plan Guidance](#) statement, published in September 2021, the three roles and five activities of distribution system operation, were defined as shown in Table 2 below.

Table 2: Distribution System Operation roles and activities, prescribed by Ofgem

Role	Activity
Role 1: Planning & Network Development	1.1 Plan efficiently in the context of uncertainty, taking in account of whole system outcomes, and promote planning data availability
Role 2: Network Operation	2.1 Promote operational data visibility and data availability
	2.2 Facilitate efficient dispatch of distribution flexibility services
Role 3: Market Development	3.1 Provide accurate, user friendly and comprehensive market information
	3.2 Embed simple, fair, and transparent rules for procuring distribution flexibility services

Figure 1 below illustrates the high-level process of network development using flexibility services, where the three stages of pre-tender, tender and post-tender are shown within DSO Roles 1, 2 & 3 and where the CEM Tool is used within these three stages. In addition, the areas that that have been defined by some DNOs as being within their network options assessment⁴ are shown.

Figure 1: High level process of capacity provision using flexibility services



Each stage is considered in turn and how the CEM Tool is applied is described in detail.

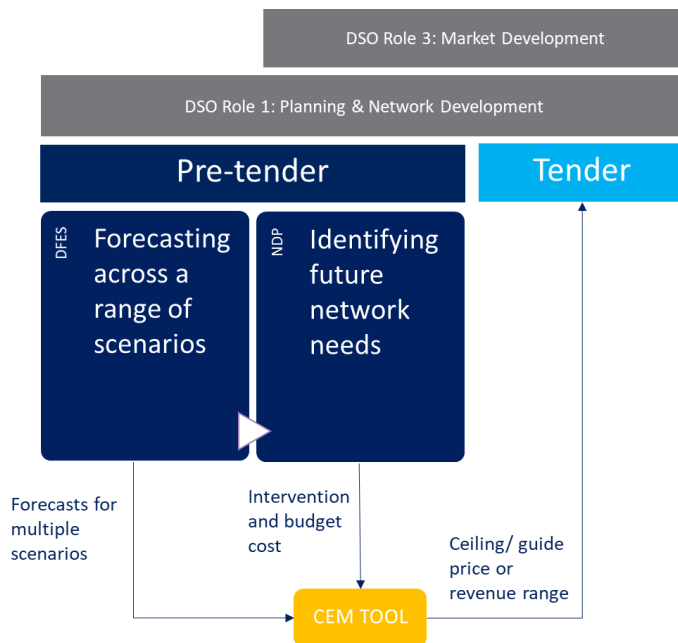
⁴ The phrase ‘network options assessment’ is used generically to refer to the assessment of network solution options undertaken by DNOs as this phase or others, like Distribution Network Options Assessment (DNOA), have not yet been defined or accepted as a common industry term.

Pre-tender Stage

In this stage the key activities are forecasting and network needs identification. All DNOs generate and publish demand and generation forecasts in their Distribution Future Energy/Electricity Scenario (DFES) documents; and from May 2022 DNOs have developed and published their Network Development Plans (NDP) that detail their network’s future needs for the next 10 years. Annex 1 contains the links to the webpages for each of these documents published by the GB DNOs.

Figure 2 below shows the inputs to the CEM Tool are 1) a range of scenarios (i.e. forecasts of future demand) for the network under consideration and 2) the budget costs and estimated timings of potential network intervention options being proposed to mitigate the network need. At this pre-tender stage the key output is the ceiling/ guide price or a revenue range that is used in the tender process. This information is shared to illustrate the opportunities available to potential responders for participation; this approach has been adopted by DNOs following feedback from stakeholders in previous ENA Open Networks Project consultations. The aim of providing this information is to encourage early participation by showing the value of involvement thereby developing the flexibility market so that competition in flexibility provision is driven by price.

Figure 2: High level process for pre-tender stage



As shown the use of the CEM Tool in this pre-tender stage is to create the ceiling or guide price or revenue range for publication in the tender. This output from the CEM Tool is for the pre-tender stage is available on the Ceiling Price tab of the current CEM Tool ([CEM Tool v2.2: 25 Aug 2022](#)).

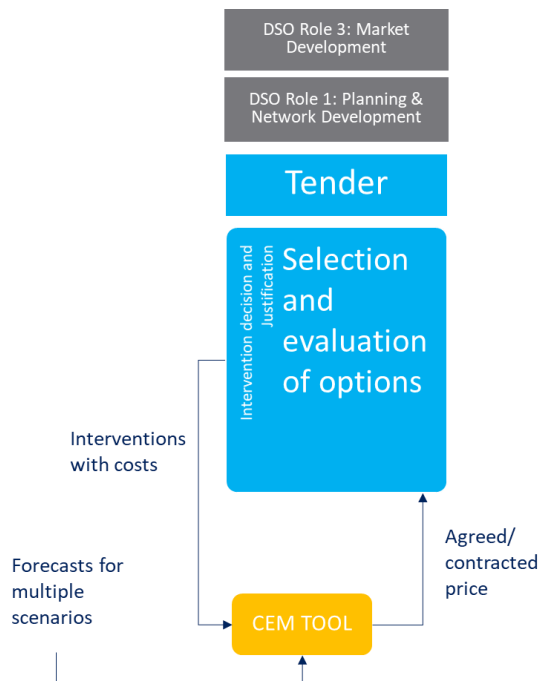
Tender Stage

In this stage the key activity is the evaluation of the solution options and the selection of the optimal solution, using the CEM Tool.

Like the pre-tender stage Figure 3 below shows the inputs to the CEM Tool are 1) a range of scenarios (i.e. forecasts of future demand) for the network under consideration and 2) the estimated costs and timings of potential network intervention options being proposed to mitigate the network need; with one of the options

being the costs of provision of the flexibility services from the tendering process. In this tender stage the key output is the selection of the solution to be employed to mitigate the network need. The DNOs will use a combination of the information from the 'Benefits by strategy' and 'Insights and Reporting' tabs, and where appropriate information from the 'Option value' tab within the CEM Tool.

Figure 3: High level process for tendering flexibility services



Where flexibility services are designated as the optimal solution the DNO will finalise the contracting process with the flexibility services provider(s) and schedule for the services. In some cases, a Best And Final Offer (BAFO) stage may be included to ensure the lowest cost to consumers.

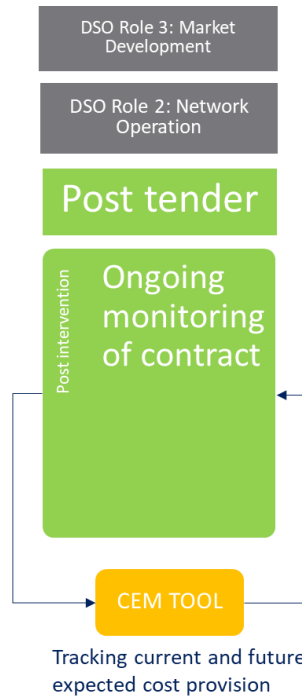
Post-tender Stage

Where flexibility services are defined as the optimal solution to mitigate the need it is important that any variances to the provision of flexibility services is monitored to ensure that the decision to utilise flexibility services remains value for money for customers compared with other network solutions. In this stage the key activities are the administrative monitoring of the service provider (including any post tender delivery milestones), the commercial monitoring of the services provided), and the planning for future service provision. The administrative monitoring involves checking the financial status of the service provider on a regular basis, whilst the commercial monitoring is tracking the costs of provision of flexibility services, including the delivery performance of the flexibility provider, and the planning for future service provision is reviewing on an ongoing basis the expected service requirement and sharing this in advance with the flexibility service provider. These ongoing activities ensure that the viability and future use of flexibility services remains the optimal approach.

Figure 4 below shows post-tender monitoring and review of the flexibility services contract and requirements. In this stage the DNO will monitor the utilisation of the agreed flexibility services against the scheduled current and future services regularly checking that the cost of service provision is within the bounds of the efficient economic decision initially made; the review cycle will be dependent upon the agreed contract length and the

extent of the ongoing use of the flexibility services. For example, triggers may be put in place on the actual utilisation of the flexibility services compared against the scheduled utilisation.

Figure 4: High level process for ongoing contract monitoring and review



This ongoing monitoring of the contract, the service provider and the utilisation of the flexibility services ensures the flexibility services solution remains value for money for customers compared with other network solutions. and the Figure 4 below shows post-tender monitoring and review of the flexibility services contract.

Network options assessment

Some DNOs have started to use the phrase Distribution Network Options Assessment (DNOA) to describe the overall process of developing and evaluating a range of intervention options to mitigate a network need. Although this has not been accepted as a common phrase a review of the DNOs' RII0-ED2 Final Business Plan Submissions highlights that the elements of the pre-tender and tender phases shown in Figure 1 above are universally part of a network options assessment process as described by DNOs.

It is expected that the ENA Open Networks Project will consider whether to define a network options assessment process and assign it as the DNOA, so as not to cause confusion with the Network Options Assessment (NOA) process performed by the GB System Operator.

Decision transparency and publication of results

Reporting requirements of SLC 31E

In December 2020 Ofgem amended the GB distribution licence to enact requirements imposed by the EU Clean Energy Package. The new standard licence condition (SLC), 31E, specifies that the distributors must:

- Coordinate the procurement and use of flexibility services with the GB System Operator and other Distribution Licensees
- Prepare and publish an annual Distribution Flexibility Services Procurement Statement on 1 April every year detailing the kinds of Distribution Flexibility Services and Energy Efficiency Services it is interested in purchasing in the year ahead
- Prepare and publish an annual Distribution Flexibility Services Procurement Report on 1 May every year detailing the kinds of Distribution Flexibility Services and Energy Efficiency Services it has procure and utilised in the previous year, and
- Publish the outcomes of any concluded Distribution Flexibility Services procurement processes within one month of contractual agreement and where relevant confirm the counterparty, technology type, capacity and volume procured, length of contractual agreement, payment structure and price agreed for the provision of services.

Each DNO committed to publish the outcome of the tender process for flexibility services provision, including a completed CEM Tool workbook, as part of the implementation of the CEM Tool into business as usual in April 2021 to fulfil the obligations of SLC 31E described in the last bullet above. Table 3 below contains the weblinks to the DNOs' website that contain this procurement information, in compliance with SLC 31E.

Table 3: Links to DNOs' decisions/tender results

DNO Group	URL
ENWL	Previous Flexible Services Requirements (enwl.co.uk)
NGED	Tools & Documents - NGED (flexiblepower.co.uk)
NPg	https://www.northernpowergrid.com/DSO .
SPEN	Documents - SP Energy Networks (flexiblepower.co.uk)
SSEN	Flexibility Services Document Library - SSEN
UKPN	Flexibility Hub - UKPN Smart Grid (ukpowernetworks.co.uk)

Illustrative example

Background and description of network need

Over the last three years the GB DNO has identified in its Long Term Development Statement (LTDS), Distribution Future Electricity Scenarios (DFES) and Network Development Plan (NDP) that the demand on a primary substation, due to projected load growth, is expected to exceed firm capacity of the substation in winter 2023/24 and beyond. The value of expected exceedance above firm capacity was small (but not negligible) relative to the firm capacity and the primary substation appeared, at first glance, a suitable candidate for exploring the flexibility options to mitigate the overload condition. The GB DNO's planning engineers have reviewed the primary substation both in isolation and then as one of several interconnected or grouped substations considering the lowest cost intervention options; for example, reviewing the utilisation of adjacent substations and looking into the option of reconfiguring the network to temporarily reallocate capacity across the network.

Having flagged the site as requiring intervention at some point soon the DNO has been closely monitoring connections activity in the surrounding area, as this may bring forward the expected date of intervention.

In its annual forecasting cycle for year 2022/23 the DNO confirmed an expected overload on the firm capacity at the local primary substation in winter 2023/24. Identification and declaration of this thermal capacity limitation initiated an optioneering process to identify the range of possible solutions, including the budget costing of the most probable network asset intervention that would mitigate the network need. In parallel the necessary information was gathered for tendering for a flexibility service to mitigate the network need.

In the Spring 2022 tender round the GB DNO sought to procure a Dynamic flexibility services response for a single year in 2023/24 over the winter period to mitigate the capacity overload. Background knowledge of potential flexibility in this area of the network suggested there was limited availability, so the DNO chose a single year to test the market in terms of size and availability of flexibility services. The decisions on future years would be made later.

Application of the CEM Tool

Pre-tender stage

As previously described the DNO in the pre-tender stage will generate a ceiling price or price range for application in the tendering process. The DNOs have agreed sharing a ceiling/guide price or a price range that helps stimulate interest in the tender process and encourages participation in the provision of flexibility services. This approach aims to facilitate the development of the flexibility services market and ultimately drives liquidity and price competition.

In this example the DNO has only chosen to tender for the single year of 2023/24 but has specified that it is open to multi-year bids from flexibility services providers. In addition, this DNO has also confirmed that it is open to the bidder specifying their availability and/or utilisation prices and so the published guide price is the value available in one year for purchasing flexibility services.

To generate a guide price the DNO completes the CEM Tool with the information shown in Table 4 below.

Table 4: Data and information for the CEM Tool for the ceiling/guide price or price range*

Data and information required	Inputs and source data	Reference
Reference year, start year and flexibility cost input type.	INPUT the reference (2022/23) and start (2022) years and define how the flexibility costs will be input (Flex costs directly). Plus, name the scenario (Best View) and strategy (Flexibility).	Control Tab
Timing and costs of network reinforcement (i.e. the counterfactual)	INPUT the budget cost (£630k) and intervention timing (2023 & 2024) for the network reinforcement. Plus determine the exceedance (0.9 MVA) in 2023.	Baseline Reinforcement Tab
Flexibility volumes	INPUT the expected Availability (0.9 MVA) and Utilisation (45 MWh) volumes per year.	Flex Volumes and Costs Input Tab
Operating parameters	INPUT initial contract years (1 year) and the scenario (Best View) for intrinsic value calculation. Plus set the probabilities for the weighted average approach (20% for all).	Additional inputs and control Tab

* To generate a price range instead of a ceiling/guide price the above steps will need to be undertaken twice using two sets of flex utilisation volumes.

The output from the application of the CEM Tool in the pre-tender stage is the guide price with a value of £20,000 per annum for winter 2023/24.

Tender stage

In the Spring 2022 tender round the DNO sought to procure a Dynamic flexibility services response for a single year in 2023/24 over the winter period with a guide price of £20,000 per annum. In its tender the DNO highlighted its requirement for 0.9 MVA for the winter months of 2023/24 everyday between the hours of 10:00 and 20:30 with availability and utilisation hours estimated as 108 and 48 respectively⁵.

The DNO highlighted that existing or new distributed energy resource connected to the HV (High Voltage) and LV (Low Voltage) circuits supplied by the primary substation will be able to participate in the tender. The postcode areas supplied by the primary substation are highlighted in the tender details. Across the DNOs a range of facilities are employed for enabling any potential provider to check whether their assets in the area supplied by the primary substation. For example, a postcode checker is provided on the DNO's website/Data Portal, or the facility is provided by the hosting platform.

As the DNO has confirmed that it was open to the bidder specifying their own availability and/or utilisation price requirements, it has provided a cost calculator to aid the flexibility services providers generate appropriate combinations of availability and utilisation prices.

The DNO received multiple bids and evaluated each bid using the CEM Tool with the confirmed information shown in Table 5 utilised to calculate the ceiling price. Those bids that were below the ceiling price were accepted.

⁵ For clarity the service window hours (10:00 to 20:30 everyday for the winter months) are not equal to the service availability hours i.e. 108 hours, for this illustrative example.

Table 5: Confirmed data and information for the CEM Tool evaluation, updating the parameters in Table 4

Data and information required	Inputs and source data	Reference
Flexibility volumes and costs	INPUT the Availability (0.9 MVA and 108 hours) and Utilisation (48 hours) volumes per year; and the Availability (£/MW/h) and Utilisation (£/MWh) bid prices.	Flex Volumes and Costs Input Tab
Losses and other penalties (optional)	INPUT the impact of losses (-18.8 MWh) and any impact from the customer interruptions and customer minutes lost (zero). The associated Losses Tool should be used as the default method for calculating losses for input into the CEM Tool.	Incentives and Penalties Tab
Carbon impact (optional)	INPUT the volume and types of assets for the reinforcement to calculate their embedded carbon impact (not utilised in this instance).	Embedded emissions input Tab
Operating parameters	INPUT initial contract years (1 year) and the scenario (Best View) for intrinsic value calculation.	Additional inputs and control Tab

The tender round was successful and the DNO has entered into a contractual arrangement with the service provider to procure the required Dynamic response service.

Post- tender stage

As the provision of flexibility services starts in November 2023 the DNO has not yet started its monitoring regime to manage the relationship with the provider. Over the coming months and prior to the initiation of the flexibility services all the technical arrangements will be agreed and implemented by both parties.

Reporting requirements of SLC 31E

To fulfil its licence obligations the DNO has published the following information on its website:

- (a) The counterparty to the contract;
- (b) The technology type of the counterparty;
- (c) The capacity and volume procured;
- (d) The length of the contractual agreement;
- (e) The payment structure of the contract; and
- (f) The price agreed for the provision of services.

Potential development for real-time evaluation and procurement of flexibility services

Description of future need

It has been noted in the [ON22-WS1A-P2 Recommendations report](#) issued in April 2022 that as the DNOs move to closer to real time procurement of flexibility services the approach to evaluating and monitoring the ongoing use of flexibility services using the CEM Tool may need to change. Figure 5 below shows the pictorial representation of the development timelines and new or revised activities that would need to be developed for the transition to real-time procurement.

Figure 5: Recommended steps and associated timescales to move to real-time procurement⁶

Short term Medium Term Long term

STEPS TO REALTIME/CLOSER TO REALTIME PROCUREMENT						
Removing Barriers/knowledge gathering		Planning			Implementation	
Gather Learning; DNO experience ESO experience Outcomes of innovation trials Feedback from Stakeholders Regulatory input	Consult with Procurement and Legal reps to agree procurement/contractual structure for realtime/closer to realtime flex procurement. Alignment with P4 - Common Contract	(Products) Define Product parameters for realtime/closer to realtime procurement. Alignment with P6 - Flexibility Products	(Processes) Determine procurement structure and associated timelines. Alignment with P2 - Procurement Processes	C31E engagement with Stakeholders; Products, Processes and Systems	Market Transparency Produce documentation to support changes; policy, contracts, FSP guides etc.	Gather Learning; DNO experience ESO experience Outcomes of innovation trials Feedback from Stakeholders Regulatory input
	Consult with Planning teams to understand network risks; Flexibility Assessment approach, ER-P2/7 Oversight from P0 - Common Framework for Flexibility	(Systems) Identify Systems and interfaces required for realtime/closer to realtime procurement. Alignment with P3 - Dispatch and Settlement	Scope and specify systems and interfaces to facilitate real time/closer to real time procurement	Gather Learning; DNO experience ESO experience Outcomes of innovation trials Feedback from Stakeholders Regulatory input	Build Systems and Interfaces Produce tools to support the communication of requirements and decision making	Test/trial

The report noted that the CEM Tool has been developed as a spreadsheet model, informed by feedback from stakeholders, so that its use to guide decisions on the purchasing of flexibility is open and transparent to all, especially flexibility providers. As the Tool currently uses the scenarios driven by annual DFES forecast it was noted that in its current form it may not be compatible with a shorter-term procurement cycle as envisaged in the real-time procurement of flexibility services.

Further development

The CEM Tool is a vital part of the process for evaluating solution options. Its use enables the DNOs to decide whether the use of flexibility services is the best value for money intervention to mitigate an identified network need. The P2 report has flagged that in the transition to real-time procurement of flexibility services a review of the CEM Tool might be appropriate.

The Product team recognises that it should consider whether the evaluation process and the application of the CEM Tool needs to adapt for the procurement of flexibility services in real-time.

This requirement will be part of the discussions regarding the ongoing development of the CEM and the Tool.

⁶ Source: [ON22-WS1A-P2 Recommended steps to move to real-time procurement \(21 Apr 2022\)](#).

Annexes

Annex 1: GB DNO's Distribution Future Energy Scenarios and Network Development Plans

Distribution Network	Link
Electricity North West	Distribution Future Energy Scenarios
National Grid Electricity Distribution	National Grid - Distribution Future Energy Scenarios
Northern Powergrid	Network Data Northern Powergrid
SP Energy Networks	Distribution Future Energy Scenarios - SP Energy Networks
Scottish and Southern Energy Networks	SSEN Distribution Future Energy Scenarios 2021 - Regen
UK Power Networks	Distribution Future Energy Scenarios 2022 UK Power Networks

Distribution Network	Link
Electricity North West	https://www.enwl.co.uk/get-connected/network-information/dfes/[enwl.co.uk]
National Grid Electricity Distribution	National Grid Electricity Distribution - Network Development Plan [westernpower.co.uk]
Northern Powergrid	https://www.northernpowergrid.com/network-data[northernpowergrid.com]
SP Energy Networks	Network Development Plan - SP Energy Networks [spenergynetworks.co.uk]
Scottish and Southern Energy Networks	Network Capacity Information - SSEN [ssen.co.uk]
UK Power Networks	Long Term Development Statement and Network Development Plan Landing Page — UK Power Networks

Annex 2: GB DNO's Whole System Coordination Registers

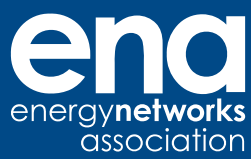
Distribution Network	Link
Electricity North West	Whole systems register (enwl.co.uk)
National Grid Electricity Distribution	https://www.westernpower.co.uk/whole-system-coordination-register
Northern Powergrid	Network Data Northern Powergrid
SP Energy Networks	Our Whole System Strategy - SP Energy Networks
Scottish and Southern Energy Networks	sepd-whole-system-register-final.xlsx (live.com)
UK Power Networks	https://www.ukpowernetworks.co.uk/whole-system-register

Annex 3: Links to published Common Evaluation Methodology Materials

	Link
Common Evaluation Methodology Statement	https://www.energynetworks.org/assets/images/Resource%20library/ON21-WS1A-P1%20Common%20Evaluation%20Methodology%20(CEM)%20v2.0%20(14%20Jan%202022).pdf
User Guide:	https://www.energynetworks.org/assets/images/Resource%20library/ON22-WS1A-P1%20Updated%20CEM%20and%20Tool%20User%20Guide%20(14%20Jan%202022)%20(1).pdf
Common Evaluation Methodology Tool V2.1:	Follow link https://www.energynetworks.org/industry-hub/resource-library/?search=Common+Evaluation+Methodology&id=267 and click on download for ON22-WS1A-P1 Common Evaluation Methodology Tool Version 2.1 (12 April 2022)
Use Cases	Follow link https://www.energynetworks.org/industry-hub/resource-library/?search=Common+Evaluation+Methodology&id=267 and click on download for ON22-WS1A-P1 Common Evaluation Methodology Tool for Network Investment Decisions – Use Cases
WS1A P1 (CEM Tool) and WS4 P1 (WS CBA) Interactions Report	https://www.energynetworks.org/industry-hub/resource-library/on22-ws1a-p1-and-ws4-p1-cem-and-whole-system-cba-interactions-report-(25-apr-2022).pdf

Annex 4: GB DNO's references to Energy Efficiency proposals as part of their RII0-ED2 Final Business Plan submissions

Distribution Network	Link
Electricity North West	RIIO-ED2 Business Plan: Appendix 9.3 in Annex 2 (DSO Transition Plan)
National Grid Electricity Distribution	
Northern Powergrid	
SP Energy Networks	RIIO-ED2 Business Plan: Annex 4A.27 (Strategic DNO)
Scottish and Southern Energy Networks	
UK Power Networks	RIIO-ED2 Business Plan: Whole Systems Strategy



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