

Appendix 4 – Connections and Connection Rights (March 2021)

Structure of the Appendix

This Appendix provides an initial overview of the Function, including the snapshot of the roadmap of the Function and some key statistics.

We then go through each activity and the unique steps that sit under the activity. With the term “unique” we indicate all Common Steps aggregated at organisation level, where possible, as well as steps which aggregate Individual Steps (see section 2.7.2 of the main document for reference).¹

We provide a summary table of each step which includes all the associated information as of the date of this publication. The fields of the table are explained below:

Step	Name of the step as included in the DSO Roadmap
Step type:	<i>Development / definition activity or network action or code change process or enabler/dependency.</i>
Description:	<i>Description of the step as included in the DSO Roadmap</i>
ENA ONP Product:	<i>Only relevant for steps which are associated to an ENA ONP Product.</i>
Timeline:	<i>Start date and completion date of the step. For aggregated steps, start date shows the earliest start date of the responses and completion date the latest completion date of the responses.</i>
Organisation type:	<i>Involved organisations who are responsible for delivering this step. If the step type is “Code change process”, then a delivery body which consists of a number of stakeholders (DNOs, Ofgem, TOs, ESO), is responsible for the code change process. In this case the step is allocated to the “Delivery body”.</i>
Progress:	<i>This field shows the number of organisations in each implementation level.</i>
Additional information:	<i>Additional information such as barriers, dependencies, good practices and links to public information is included in this field.</i>

Table 1 – Step table template, definition of the fields

Function 4

Function 4 – Connections and Connection Rights consists of 72 unique steps, some of which are common across DNOs, T.E.F. projects and TOs or duplicated across different activities of this function. We received in total 300 contributions by the involved stakeholders (i.e. 300 steps by all organisations, which were aggregated to 72 unique steps, where possible).

As of March 2021, Figure 1 shows that the roadmap of the “Connections and Connection Rights” Function will be completed by 2025. Please note that timescales are only relevant to steps that have been planned or being implemented by the involved organisations. There are no dates for steps that are at conceptual level, meaning that the organisations plan to implement the step, but they do not know the timescale of the implementation (please refer to section 2.7.3 of the main document for reference).

¹ If a step is relevant to the wider industry, it is called Common Step. A step which is required for individual organisation to implement DSO functionality is called Individual Step. Individual steps are aggregated into a single generic step combining all individual network actions and described only at a high-level, anonymised basis.

Activity

- A. Connection agreements
- B. Connection access rights/principles/ information
- C. Queue management/priorities
- D. Commercial arrangements for constraints

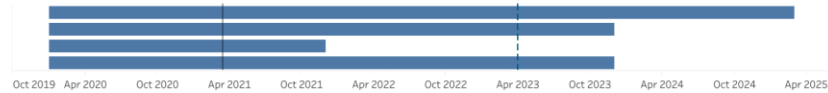


Figure 1 Connections and Connection Rights Roadmap

Figure 2 shows the total number of organisations' contributions to the unique steps. Nearly 45% of the steps in this Function have been completed, as of March 2021, while more than a third of them is in organisations' pipeline for implementation.

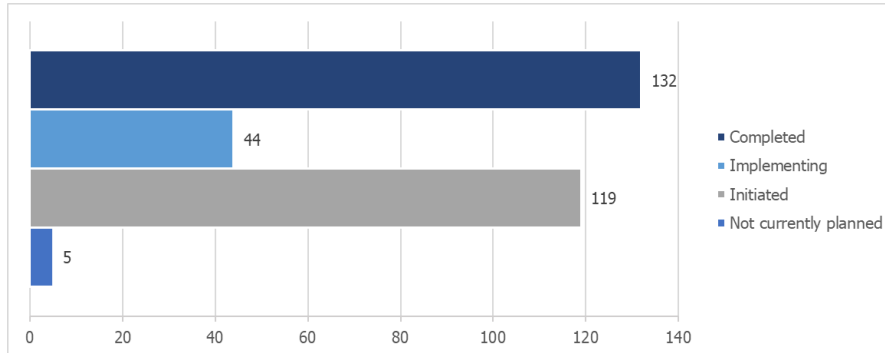


Figure 2 Progress against implementation of "Connections and Connection Rights" Function (No. of steps-contributions of each organisation)

Figure 3 shows the number of unique steps that are led by each organisation type in the "Connections and Connection Rights" Function. Most steps are led by DNOs; as you will see in the detailed steps' description, the majority of DNO steps are driven by ENA ONP deliverables and Good Practice. A few code change processes are also relevant for this DSO Functionality.

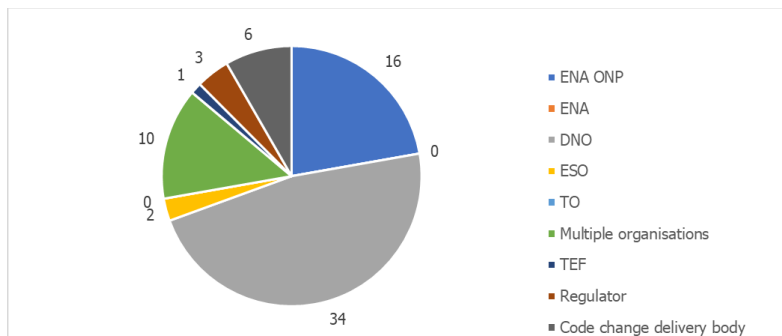


Figure 3 Number of steps led by organisation type in Function 4

Activity A: Connection agreements

Description: Providing connections for customers with defined terms and conditions for network access. Defining the roles and responsibilities for each party involved in the connection.

Figure 4 displays the roadmap for activity A which consists of 15 unique steps:

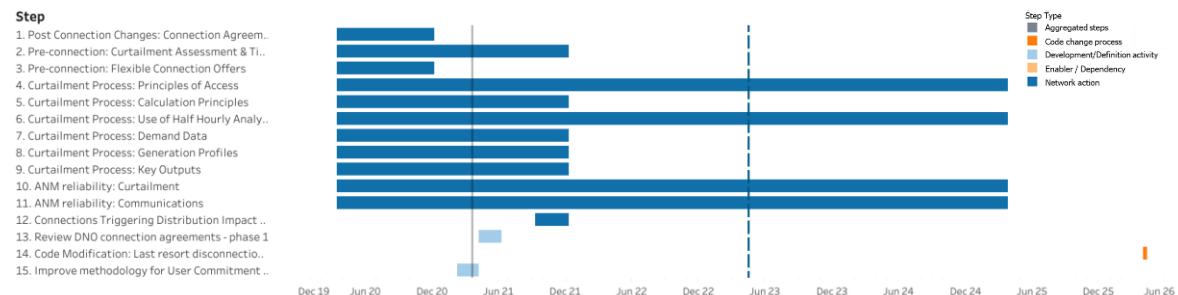


Figure 4 Connections and Connection Rights – Activity A roadmap

Figure 5 shows the total number of organisations' contributions to the unique steps. As of March 2021 most steps (~58%) have been completed and nearly one fifth of them is under implementation. One fifth are also in the organisations' pipeline to implement but have not started yet ("Initiated"). 1 response have indicated that they are not currently planning to implement a step.

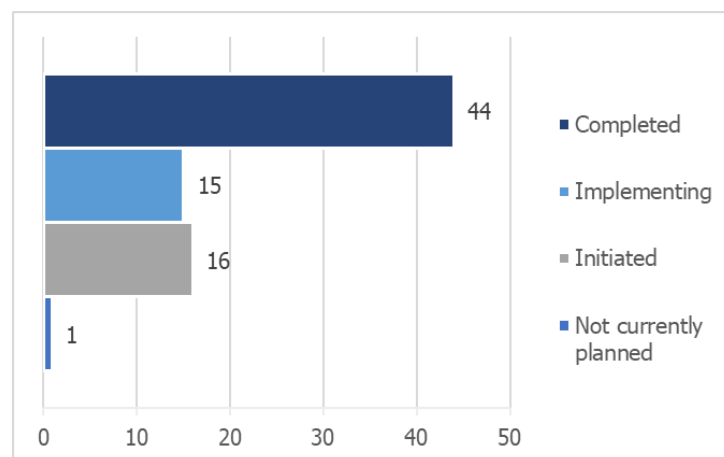


Figure 5 Progress against implementation of "Connections and Connection Rights" – Activity A (No. of steps-contributions of each organisation)

The tables on the following pages provide detailed information for each step under Activity A.

Step 1

Step:	Post Connection Changes: Connection Agreements
Step type:	Network actions
Description:	ENA ONP Workstream 2 Product 6 (2018) guidance: connection agreements should ideally be reflective of the equipment installed and hours of operation of customers' equipment on the connected site where appropriate.
ENA ONP Product:	2018 WS2 P6
Timeline:	January 2010 - December 2020
Organisation type:	DNO(6)
Progress:	Initiated(1), Completed(5)
Additional information:	Most DNOs have completed this step. One DNO mentioned that their Bespoke Connection Agreement has been in use throughout ED1 price control to date. The DNO, that has not completed yet the step, has implemented the agreement to reflect technology but not hours of operation yet. More details on the previous DNOs' update on this step can be found in the link below: https://www.energynetworks.org/industry-hub/resource-library/open-networks-2019-prj-monitoring-implementation-(q4-2019).pdf

Step 2

Step:	Pre-connection: Curtailment Assessment & Timescales
Step type:	Network actions
Description:	ENA ONP Workstream 2 Product 7 (2018) good practice: For new connections, DNO offers the choice of a undertaking a DNO Curtailment Assessment and at least one of the following alternatives: (a) DIY Assessment, (b) DNO Curtailment Assessment, (c) Curtailment Index. DNOs make a high-level curtailment assessment information available early in the connection process. Depending on customer requirements, DNOs are flexible on timing of when they conduct the more detailed assessment and make curtailment information available.
ENA ONP Product:	2018 WS2 P7
Timeline:	January 2017 - December 2021
Organisation type:	DNO(6)
Progress:	Implementing(3), Completed(3)
Additional information:	This is a step driven by one of the ENA ONP good practices. DNOs have followed the guidance for implementation of this step, 1 DNO highlighted that they have already similar processes in place, prior to the publication of the Good Practice Guide. Another DNO highlighted that the implementation of this step as low difficulty, but it would be more complex to run this activity as part of the BAU activities. More details on the previous DNOs' update on this step can be found in the link below: https://www.energynetworks.org/industry-hub/resource-library/open-networks-2019-prj-monitoring-implementation-(q4-2019).pdf

Step 3

Step:	Pre-connection: Flexible Connection Offers
Step type:	Network actions
Description:	ENA ONP Workstream 2 Product 7 (2018) good practice: It is considered good practice for network companies to provide the following information in flexible connection offers: (a) Explanation of the flexible solution being offered, (b) Details of the constraint(s), (c) An initial view of the curtailment, (d) Queue position (where relevant).
ENA ONP Product:	2018 WS2 P7
Timeline:	January 2016 - December 2020
Organisation type:	DNO(6)
Progress:	Implementing(1), Completed(5)
Additional information:	<p>This is a step driven by one of the ENA ONP good practices.</p> <p>1 DNO has mentioned that provision of Flexible Connection Offers is limited in their area, due to lack of constraints. However they provide this information when and if required.</p> <p>More details on the previous DNOs' update on this step can be found in the link below:</p> <p>https://www.energynetworks.org/industry-hub/resource-library/open-networks-2019-prj-monitoring-implementation-(q4-2019).pdf</p>

Step 4

Step:	Curtailment Process: Principles of Access
Step type:	Network actions
Description:	ENA ONP Workstream 1 Product 7 (2018) good practice: Good Practice includes detailed information of the generators ahead of them in the stack as detailed below: a. principles of access should be clearly stated in the offer and the curtailment assessment, b. the customers understand who is ahead of them in the stack impacting their curtailment, c. assumption of what type of generation is considered in the stack should be stated, d. make type of generation and collective size of each type of generator ahead of customer in the stack clear in the curtailment assessment.
ENA ONP Product:	2018 WS1 P7
Timeline:	January 2016 - March 2025
Organisation type:	DNO(6)
Progress:	Initiated(2), Implementing(1), Completed(3)
Additional information:	<p>This is a step driven by one of the ENA ONP good practices.</p> <p>DNOs follow different curtailment process as per their requirements, so not all of them have implemented this step. One DNO mentioned that curtailment will not be linked to LIFO stack, while another raised concerns with regard to commercially sensitive information.</p> <p>This is a step driven by one of the ENA ONP good practices.</p> <p>More details on the previous DNOs' update on this step can be found in the link below:</p> <p>https://www.energynetworks.org/industry-hub/resource-library/open-networks-2019-prj-monitoring-implementation-(q4-2019).pdf</p>

Step 5

Step:	Curtailment Process: Calculation Principles
Step type:	Network actions
Description:	ENA ONP Workstream 1 Product 7 (2018) good practice: calculations should be based on consistent, clear and open assumptions which allows for easy comparison between curtailment assessments.
ENA ONP Product:	2018 WS1 P7
Timeline:	January 2016 - December 2021
Organisation type:	DNO(6)
Progress:	Implementing(1), Completed(5)
Additional information:	This is a step driven by one of the ENA ONP good practices. More details on the previous DNOs' update on this step can be found in the link below: https://www.energynetworks.org/industry-hub/resource-library/open-networks-2019-pri-monitoring-implementation-(q4-2019).pdf

Step 6

Step:	Curtailment Process: Use of Half Hourly Analysis
Step type:	Network actions
Description:	ENA ONP Workstream 1 Product 7 (2018) good practice: Both, load flow based and spreadsheet based, approaches are considered Good Practice depending on the complexity of the network. There are potential future options discussed below.
ENA ONP Product:	2018 WS1 P7
Timeline:	January 2016 - March 2025
Organisation type:	DNO(6)
Progress:	Initiated(2), Implementing(1), Completed(3)
Additional information:	This is a step driven by one of the ENA ONP good practices. One DNO is not currently planning to implement the step as they only apply curtailment to planned outages and Half Hour (HH) Analysis is not required yet. They will reconsider in the future. More details on the previous DNOs' update on this step can be found in the link below: https://www.energynetworks.org/industry-hub/resource-library/open-networks-2019-pri-monitoring-implementation-(q4-2019).pdf

Step 7

Step:	Curtailment Process: Demand Data
Step type:	Network actions
Description:	<p>ENA ONP Workstream 1 Product 7 (2018) good practice: Good Practice entails care when preparing demand data using the considerations below to ensure the most representative and accurate input data: a. should be made clear to the customer what data is being used (likely to be a future network configuration with historical or assumed data)b. all historical data is aligned in time, to ensure all macro affects are captured they should be made clear to the customer that this demand data is subject to change which should make the curtailment better or worse.</p>
ENA ONP Product:	2018 WS1 P7
Timeline:	January 2016 - December 2021
Organisation type:	DNO(6)
Progress:	Implementing(2), Completed(4)
Additional information:	<p>This is a step driven by one of the ENA ONP good practices. DNOs mentioned that most of the activities under this step are being implemented, but enhancement processes over HH data quality are also required.</p> <p>A tool developed for EFFS was mentioned as an enabler for this step. More details on the previous DNOs' update on this step can be found in the link below:</p> <p>https://www.energynetworks.org/industry-hub/resource-library/open-networks-2019-prj-monitoring-implementation-(q4-2019).pdf</p>

Step 8

Step:	Curtailment Process: Generation Profiles
Step type:	Network actions
Description:	<p>ENA ONP Workstream 1 Product 7 (2018) good practice: It is considered good practice to use historical data to give the customer the most representative results, however using generation profile data is still a valid approach.</p>
ENA ONP Product:	2018 WS1 P7
Timeline:	January 2001 - December 2021
Organisation type:	DNO(6)
Progress:	Implementing(1), Completed(5)
Additional information:	<p>This is a step driven by one of the ENA ONP good practices. More details on the previous DNOs' update on this step can be found in the link below:</p> <p>https://www.energynetworks.org/industry-hub/resource-library/open-networks-2019-prj-monitoring-implementation-(q4-2019).pdf</p>

Step 9

Step:	Curtailment Process: Key Outputs
Step type:	Network actions
Description:	ENA ONP Workstream 1 Product 7 (2018) good practice: A curtailment assessment should include all of the following: (a) Energy volume before curtailment (the assumed generation profile), (b) Energy volume after curtailment and/or, the curtailed volume of energy, (c) an indication (probably visually) of the volume of curtailment throughout the year and throughout a day, also an indication of any abnormal running considered, (d) outline of the assumptions in the previous areas in the supporting information.
ENA ONP Product:	2018 WS1 P7
Timeline:	January 2016 - December 2021
Organisation type:	DNO(6)
Progress:	Not currently planned(1), Implementing(1), Completed(4)
Additional information:	This is a step driven by one of the ENA ONP good practices. One DNO is not planning to implement this step as they provide different types of information as part of their current processes. More details on the previous DNOs' update on this step can be found in the link below: https://www.energynetworks.org/industry-hub/resource-library/open-networks-2019-prj-monitoring-implementation-(q4-2019).pdf

Step 10

Step:	ANM reliability: Curtailment
Step type:	Network actions
Description:	ENA ONP Workstream 1 Product 7 (2018) good practice: Details of all curtailment actions should be logged with sufficient detail to enable identification of key cause(s).
ENA ONP Product:	2018 WS1 P7
Timeline:	January 2016 - March 2025
Organisation type:	DNO(6)
Progress:	Initiated(1), Implementing(1), Completed(4)
Additional information:	As per DNOs, this step depends on the development on a centralised ANM system and process improvements that would allow ANM to support a high volume of BAU enquiries and to be more customer friendly. More details on the previous DNOs' update on this step can be found in the link below: https://www.energynetworks.org/industry-hub/resource-library/open-networks-2019-prj-monitoring-implementation-(q4-2019).pdf

Step 11

Step:	ANM reliability: Communications
Step type:	Network actions
Description:	ENA ONP Workstream 1 Product 7 (2018) good practice: The length of time of a communications outage should be logged with which communication leg caused the issue.
ENA ONP Product:	2018 WS1 P7
Timeline:	January 2016 - March 2025
Organisation type:	DNO(6)
Progress:	Initiated(1), Implementing(2), Completed(3)
Additional information:	<p>This is a step driven by one of the ENA ONP good practices. As per DNOs, this step depends on the development on a centralised ANM system and process improvements that would allow ANM to support a high volume of BAU enquiries and to be more customer friendly.</p> <p>More details on the previous DNOs' update on this step can be found in the link below: https://www.energynetworks.org/industry-hub/resource-library/open-networks-2019-prj-monitoring-implementation-(q4-2019).pdf</p>

Step 12

Step:	Connections Triggering Distribution Impact Assessment
Step type:	Network actions
Description:	Implement process and changes as per guidance of the Code Modification on Connections Triggering Distribution Impact Assessment.
ENA ONP Product:	N/A
Timeline:	September 2021 - December 2021
Organisation type:	DNO(6), ESO(1)
Progress:	Initiated(7)
Additional information:	

Step 13

Step:	Review DNO connection agreements - phase 1
Step type:	Development / definition activity
Description:	2021 WS2 Product 4 will review current DNO connection agreements (offer and agreement post-energisation) in light of more recent smart grid developments such as LFDD, ANM connections, Flexibility services, relevant code changes (Grid Code such as GC019, Clean Energy Package and the associated licence changes, D code changes) etc. to ensure that it is fit for purpose for the customers (generators and storage) as well as the network companies.
ENA ONP Product:	2021 WS2 P4
Timeline:	April 2021 - June 2021
Organisation type:	ENA ONP(1)
Progress:	Initiated(1)
Additional information:	https://www.energynetworks.org/assets/images/Resource%20library/ON21-2021%20Project%20Initiation%20Document%20Pre%20Consultation-PUBLISHED.02.02.21.pdf

Step 14

Step:	Code Modification: Last resort disconnection of Embedded Generation – enduring solution
Step type:	Code change process
Description:	This modification (GC 0147) seeks to clarify the enduring arrangements for emergency instructions that the ESO can issue to Distribution Network Operators (DNOs) to disconnect embedded generators, as a last resort in an emergency situation and after having exhausted all other commercially available options.
ENA ONP Product:	N/A
Timeline:	N/A
Organisation type:	
Progress:	Initiated(1)
Additional information:	GC0147: Last resort disconnection of Embedded Generation – enduring solution National Grid ESO

Step 15

Step:	Improve methodology for User Commitment to transmission works. - Phase 1
Step type:	Development / definition activity
Description:	2021 WS2 Product 5 will review ongoing experience of User Commitment Methodology and agree further actions. The current methodology for User Commitment to transmission works is captured in the CUSC Section 15. CUSC 15 currently covers transmission securities and liabilities. This was introduced in 2013 to provide a more equitable system for calculating customer liabilities should customers modify or cancel projects such that network reinforcements were no longer required.
ENA ONP Product:	2021 WS2 P5
Timeline:	February 2021 - April 2021
Organisation type:	ENA ONP(1)
Progress:	Implementing(1)
Additional information:	https://www.energynetworks.org/assets/images/Resource%20library/ON21-2021%20Project%20Initiation%20Document%20Pre%20Consultation-PUBLISHED.02.02.21.pdf

Activity B: Connection access rights/principles/information

Description: Agreeing how capacity constraints on the transmission and distribution networks that affect all customers will be managed by network operators and how this information will be disseminated.

Figure 6 displays the roadmap for activity B which consists of 32 unique steps:



Figure 6 Connections and Connection Rights – Activity B roadmap

Figure 7 shows the total number of organisations' contributions to the unique steps. As of March 2021 nearly half of the steps (~49%) have been completed and approximately 16% is under implementation. A third of the steps are in the organisations' pipeline to implement but have not started yet ("Initiated"). 2 responses have indicated that they are not currently planning to implement a step.

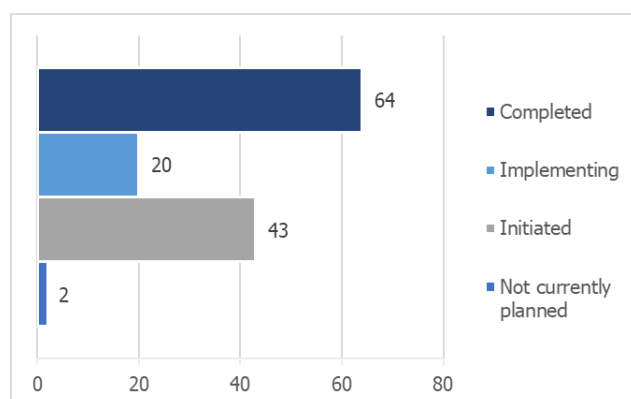


Figure 7 Progress against implementation of "Connections and Connection Rights" – Activity B (No. of steps-contributions of each organisation)

The tables on the following pages provide detailed information for each step under Activity B.

Step 1

Step:	Ahead of Connection Applications: Surgeries
Step type:	Network actions
Description:	ENA ONP Workstream 2 Product 1 (2018) good practice: DNOs to provide (a) pre bookable surgeries and (b) also offer more bespoke meetings at a mutually convenient time and location to cater for all types of customers.
ENA ONP Product:	2018 WS2 P1
Timeline:	January 2015 - March 2019
Organisation type:	DNO(6)
Progress:	Completed(6)
Additional information:	This is a step driven by one of the ENA ONP good practices. More details on the previous DNOs' update on this step can be found here: https://www.energynetworks.org/industry-hub/resource-library/open-networks-2019-prj-monitoring-implementation-(q4-2019).pdf

Step 2

Step:	Ahead of Connection Applications: Optioneering approach
Step type:	Network actions
Description:	ENA ONP Workstream 2 Product 1 (2018) good practice: DNOs offer optioneering approach to allow customers to submit a number of different capacities (min of three per site) for the same site, receive budget costs and progress any one that is viable through a formal offer based on the original submission date.
ENA ONP Product:	2018 WS2 P1
Timeline:	January 2015 - December 2020
Organisation type:	DNO(6)
Progress:	Implementing(1), Completed(5)
Additional information:	This is a step driven by one of the ENA ONP good practices. DNOs have different optioneering approaches according to their comments. The approaches are not standardised, but they still offer optionality for connecting customers. High complexity has been mentioned as a barrier. See: https://www.energynetworks.org/industry-hub/resource-library/open-networks-2019-prj-monitoring-implementation-(q4-2019).pdf

Step 3

Step:	Ahead of Connection Applications: Heat map RAG status
Step type:	Network actions
Description:	ENA ONP Workstream 2 Product 1 (2018) good practice: Typically red/amber/green status should be available with a clear explanation of assumptions used for colour coding.
ENA ONP Product:	2018 WS2 P1
Timeline:	January 2016 - January 2020
Organisation type:	DNO(6)
Progress:	Completed(6)
Additional information:	This is a step driven by one of the ENA ONP good practices. Complexity of ongoing updates has been highlighted by DNOs. See: https://www.energynetworks.org/industry-hub/resource-library/open-networks-2019-prj-monitoring-implementation-(q4-2019).pdf

Step 4

Step:	Ahead of Connection Applications: Heat map headroom assessment
Step type:	Network actions
Description:	ENA ONP Workstream 2 Product 1 (2018) good practice: Quantification level of headroom provided.
ENA ONP Product:	2018 WS2 P1
Timeline:	January 2016 - June 2020
Organisation type:	DNO(6)
Progress:	Initiated(1), Completed(5)
Additional information:	This is a step driven by one of the ENA ONP good practices. More details on the previous DNOs' update on this step can be found in the link below: https://www.energynetworks.org/industry-hub/resource-library/open-networks-2019-prj-monitoring-implementation-(q4-2019).pdf

Step 5

Step:	Ahead of Connection Applications: Heat map demand/generation
Step type:	Network actions
Description:	ENA ONP Workstream 2 Product 1 (2018) good practice: DNOs to provide information for both demand and generation in the form of a Heat Map.
ENA ONP Product:	2018 WS2 P1
Timeline:	January 2016 - March 2021
Organisation type:	DNO(6)
Progress:	Implementing(2), Completed(4)
Additional information:	This is a step driven by one of the ENA ONP good practices. More details on the previous DNOs' update on this step can be found in the link below: https://www.energynetworks.org/industry-hub/resource-library/open-networks-2019-prj-monitoring-implementation-(q4-2019).pdf

Step 6

Step:	Ahead of Connection Applications: Network information
Step type:	Network actions
Description:	ENA ONP Workstream 2 Product 1 (2018) good practice: Information to be provided down to HV busbars of primary substations with ability to select voltage level viewed.
ENA ONP Product:	2018 WS2 P1
Timeline:	January 2016 - January 2020
Organisation type:	DNO(6)
Progress:	Completed(6)
Additional information:	This is a step driven by one of the ENA ONP good practices. More details on the previous DNOs' update on this step can be found in the link below: https://www.energynetworks.org/industry-hub/resource-library/open-networks-2019-prj-monitoring-implementation-(q4-2019).pdf

Step 7

Step:	Ahead of Connection Applications: refresh frequency
Step type:	Network actions
Description:	ENA ONP Workstream 2 Product 1 (2018) good practice: Heat map information is refreshed at least monthly.
ENA ONP Product:	2018 WS2 P1
Timeline:	April 2017 - June 2020
Organisation type:	DNO(6)
Progress:	Implementing(1), Completed(5)
Additional information:	This is a step driven by one of the ENA ONP good practices. More details on the previous DNOs' update on this step can be found in the link below: https://www.energynetworks.org/industry-hub/resource-library/open-networks-2019-prj-monitoring-implementation-(q4-2019).pdf

Step 8

Step:	Ahead of Connection Applications: Heat map accessibility of information
Step type:	Network actions
Description:	ENA ONP Workstream 2 Product 1 (2018) good practice: Information available in geographically and in downloadable formats.
ENA ONP Product:	2018 WS2 P1
Timeline:	January 2016 - January 2020
Organisation type:	DNO(6)
Progress:	Completed(6)
Additional information:	This is a step driven by one of the ENA ONP good practices. More details on the previous DNOs' update on this step can be found in the link below: https://www.energynetworks.org/industry-hub/resource-library/open-networks-2019-prj-monitoring-implementation-(q4-2019).pdf

Step 9

Step:	Ahead of Connection Applications: Heat map contracted and connected registers
Step type:	Network actions
Description:	ENA ONP Workstream 2 Product 1 (2018) good practice: Information should be based on connected and contracted generation and also takes account of formal connection offers.
ENA ONP Product:	2018 WS2 P1
Timeline:	January 2016 - January 2020
Organisation type:	DNO(6)
Progress:	Initiated(1), Completed(5)
Additional information:	This is a step driven by one of the ENA ONP good practices. One of the DNOs has highlighted that inclusion of connection offers in the heat map adds complexity, whilst offering limited benefits to connecting customers. More details on the previous DNOs' update on this step can be found in the link below: https://www.energynetworks.org/industry-hub/resource-library/open-networks-2019-prj-monitoring-implementation-(q4-2019).pdf

Step 10

Step:	Post Connection Changes: Website
Step type:	Network actions
Description:	ENA ONP Workstream 2 Product 6 (2018) guidance: DNOs should seek to develop and provide clearer and consistent guidance to customers wishing to make changes to the equipment at their site/connection. DNO websites should have dedicated pages for customer wishing to modify their connection.
ENA ONP Product:	2018 WS2 P6
Timeline:	September 2018 - December 2020
Organisation type:	DNO(6)
Progress:	Not currently planned(1), Completed(5)
Additional information:	This is a step driven by one of the ENA ONP good practices. The 2 DNOs that have not completed the step provide alternative processes that are useful and effective for their customers. More details on the previous DNOs' update on this step can be found in the link below: https://www.energynetworks.org/industry-hub/resource-library/open-networks-2019-prj-monitoring-implementation-(q4-2019).pdf

Step 11

Step:	Post Connection Changes: Applications Process
Step type:	Network actions
Description:	ENA ONP Workstream 2 Product 6 (2018) guidance: DNOs should provide sufficient information and support to enable customers to determine whether or not they should request a new or modification application. DNOs should develop methodologies to allow customers to make a simplified application when seeking to make modifications to their existing connection. This could be by way of shorter more relevant application forms. Application forms and the application process should be amended to make requesting changes clearer and easier.
ENA ONP Product:	2018 WS2 P6
Timeline:	September 2018 - December 2020
Organisation type:	DNO(6)
Progress:	Completed(6)
Additional information:	This is a step driven by one of the ENA ONP good practices. One DNO, that has not completed the step, provides alternative processes that are useful and effective for their customers. More details on the previous DNOs' update on this step can be found in the link below: https://www.energynetworks.org/industry-hub/resource-library/open-networks-2019-prj-monitoring-implementation-(q4-2019).pdf

Step 12

Step:	Post Connection Notice of Upcoming Outages and Reporting on Actual Events
Step type:	Network actions
Description:	ENA ONP Workstream 1 Product 7 (2018) good practice: It is considered good practice for network companies to: (a) Provide advanced notice of outages with updates as appropriate, (b) Provide a final update in advance of the outage taking place, (c) Establish fora at which connected customers are able to discuss operational issues, (d) Provide to customers on request, a log of the outages that have impacted their connections. It is recommended that this information be supplemented (for ANM/flexible connections) with details of curtailment events.
ENA ONP Product:	2018 WS2 P7
Timeline:	January 2016 - December 2021
Organisation type:	DNO(6)
Progress:	Implementing(2), Completed(4)
Additional information:	This is a step driven by one of the ENA ONP good practices. One barrier flagged is the complexity to engage with the right stakeholders in the right way. One DNO will enhance and review the step alongside the ongoing development of flexible connections portfolio, including ANM. More details on the previous DNOs' update on this step can be found in the link below: https://www.energynetworks.org/industry-hub/resource-library/open-networks-2019-prj-monitoring-implementation-(q4-2019).pdf

Step 13

Step:	Enhance connection customer experience
Step type:	Network actions
Description:	Further enhance the customer connection experience. ESO will step up the level of support for smaller parties from 2021. This will include smaller parties who may have transmission related issues with their connection applications. Will also broaden the remit of customer connection seminars to incorporate input from DNOs from 2022.
ENA ONP Product:	N/A
Timeline:	April 2021 - March 2023
Organisation type:	ESO(1)
Progress:	Implementing(1)
Additional information:	ESO-led step which is also included in their RIIO-2 business plan .

Step 14

Step:	Digitisation and accessibility of connection agreements records.
Step type:	Network actions
Description:	Have in place a record management system for connection agreement (incl. backlog), from acceptance to retire (or disconnect) that can be consulted for both commercial and network operations purposes (i.e. can feed into/be accessed electronically by a design tool, searchable, and indexable).
ENA ONP Product:	N/A
Timeline:	January 2017 - December 2023
Organisation type:	DNO(6)
Progress:	Not currently planned(1), Initiated(2), Implementing(2), Completed(1)
Additional information:	This is a step identified by DNOs during the Function Surgeries. The implementation of this step sits outside ENA ONP workstreams.

Step 15

Step:	Code modification: Transmission Impact Assessment process
Step type:	Code change process
Description:	This code modification (CMP298) allows codification of the Transmission Impact Assessment process. Due to increasing levels of embedded generation connections the process for assessing their overall impact on the transmission system needs to be revised allowing the System Operator to recognise the changes caused by multiple small scale connections and plan accordingly.
ENA ONP Product:	N/A
Timeline:	October 2018 - April 2021
Organisation type:	
Progress:	Implementing(1)
Additional information:	This is a step that is linked to steps 16 and 17 of this activity. For more information please see the link below: https://www.nationalgrideso.com/industry-information/codes/connection-and-use-system-code-cusc-old/modifications/cmp298-updating The Code Modification is subject to Ofgem's approval.

Step 16

Step:	Transmission Impact Assessment
Step type:	Network actions
Description:	The CUSC modification will introduce another option for DNOs, TOs and ESO to assess the impact on the transmission system and to data exchange (alternative to the Statement of Works). DNOs who will choose to operate under this new process may have to implement any associated changes.
ENA ONP Product:	N/A
Timeline:	March 2018 - December 2023
Organisation type:	DNO(6)
Progress:	Initiated(5), Implementing(1)
Additional information:	The implementation of the step depends on outputs of step 15 (CMP298 modification). For more information on the Transmission Impact Assessment process and CMP298 please see link below: https://www.nationalgrideso.com/industry-information/codes/connection-and-use-system-code-cusc-old/modifications/cmp298-updating

Step 17

Step:	Transmission Impact Assessment
Step type:	Network actions
Description:	The CUSC modification will introduce another option for DNOs, TOs and ESO to assess the impact on the transmission system and to data exchange (alternative to the Statement of Works). TOs and the ESO to implement changes so that the Transmission Impact Assessment Process is implemented.
ENA ONP Product:	N/A
Timeline:	October 2018 - October 2021
Organisation type:	ESO(1), TO(3)
Progress:	Initiated(3), Implementing(1)
Additional information:	TOs have raised concerns with regards to the treatment of "large" Distributed Generation under the new approach. The code modification CMP298 could provide a solution on this issue or way forward to avoid future issues with wider implementation. They also flagged that the process has been delayed and the timeline is indicative and subject to CUSC modification.

Step 18

Step:	Apportion Curtailment Risk
Step type:	Development / definition activity
Description:	ENA ONP Workstream 1A Product 8 (2021) will set out options for how the risk of curtailment might be more equitably spread across ANM connections, DNOs and existing customers. This may include options for caps and collars on ANM curtailment
ENA ONP Product:	2021 WS1A P8
Timeline:	February 2021 - October 2021
Organisation type:	ENA ONP(1)
Progress:	Implementing(1)
Additional information:	https://www.energynetworks.org/assets/images/Resource%20library/ON21-2021%20Project%20Initiation%20Document%20Pre%20Consultation-PUBLISHED.02.02.21.pdf

Step 19

Step:	Apportion Curtailment Risk - regulatory approach
Step type:	Development / definition activity
Description:	This step is related to ENA ONP's step "Apportion Curtailment Risk". ENA ONP will develop options and impact analysis for balancing curtailment risk of ANM. These options will be discussed and agreed with Ofgem.
ENA ONP Product:	2021 WS1A P8
Timeline:	August 2021 - September 2021
Organisation type:	Regulator(1)
Progress:	Initiated(1)
Additional information:	https://www.energynetworks.org/assets/images/Resource%20library/ON21-2021%20Project%20Initiation%20Document%20Pre%20Consultation-PUBLISHED.02.02.21.pdf

Step 20

Step:	Apportion Curtailment Risk
Step type:	Network actions
Description:	DNOs to implement plans for apportioning curtailment risk (i.e. equalising the balance of curtailment risk for ANM connections). DNOs will implement relevant changes as per 2021 WS1A P8 recommendations and implementation plan.
ENA ONP Product:	2021 WS1A P8
Timeline:	December 2021 - April 2022
Organisation type:	DNO(6)
Progress:	Initiated(6)
Additional information:	https://www.energynetworks.org/assets/images/Resource%20library/ON21-2021%20Project%20Initiation%20Document%20Pre%20Consultation-PUBLISHED.02.02.21.pdf

Step 21

Step:	Improve Curtailment Information
Step type:	Development / definition activity
Description:	ENA ONP Workstream 1A Product 9 (2021) will consider the approach to delivering accurate and timely curtailment information that is more granular, provided more frequently, and available at individual asset level. It will set out the initial approach to developing a curtailment information strategy with phased delivery of improved curtailment information ahead of ED2.
ENA ONP Product:	2021 WS1A P9
Timeline:	January 2021 - December 2021
Organisation type:	ENA ONP(1)
Progress:	Implementing(1)
Additional information:	https://www.energynetworks.org/assets/images/Resource%20library/ON21-2021%20Project%20Initiation%20Document%20Pre%20Consultation-PUBLISHED.02.02.21.pdf

Step 22

Step:	Improve Curtailment Information
Step type:	Network actions
Description:	Based on 2021 WS1A P9 outcomes, DNOs to implement plans to delivery improvements in the provision of curtailment information. Implementation to take place 2022 and to be completed ahead of ED2.
ENA ONP Product:	2021 WS1A P9
Timeline:	January 2021 - March 2023
Organisation type:	DNO(6)
Progress:	Initiated(5), Implementing(1)
Additional information:	https://www.energynetworks.org/assets/images/Resource%20library/ON21-2021%20Project%20Initiation%20Document%20Pre%20Consultation-PUBLISHED.02.02.21.pdf

Step 23

Step:	Improve Embedded Capacity Register template
Step type:	Development / definition activity
Description:	2021 WS2 Product 1 will progress and complete recommendations from December 2020 ENA's report which will improve the templates of Embedded Capacity Registers including data fields and definitions.
ENA ONP Product:	2021 WS2 P1
Timeline:	February 2021 - March 2021
Organisation type:	ENA ONP(1)
Progress:	Implementing(1)
Additional information:	https://www.energynetworks.org/assets/images/Resource%20library/ON21-2021%20Project%20Initiation%20Document%20Pre%20Consultation-PUBLISHED.02.02.21.pdf

Step 24

Step:	DCUSA approval of improvements on Embedded Capacity Register
Step type:	Enablers / Dependencies / Barriers
Description:	DCUSA process to present and approve changes identified by ENA ONP Workstream 2 Product 1 related to Embedded Capacity Register (ECR) template
ENA ONP Product:	2021 WS2 P1
Timeline:	February 2021 - March 2021
Organisation type:	Regulator(1)
Progress:	Implementing(1)
Additional information:	https://www.energynetworks.org/assets/images/Resource%20library/ON21-2021%20Project%20Initiation%20Document%20Pre%20Consultation-PUBLISHED.02.02.21.pdf

Step 25

Step:	Improve Embedded Capacity Register template
Step type:	Network actions
Description:	DNOs to update new template as per developments of ENA ONP WS2 Product 1 which will improve the templates of Embedded Capacity Registers including data fields and definitions.
ENA ONP Product:	2021 WS2 P1
Timeline:	January 2020 - March 2022
Organisation type:	DNO(6)
Progress:	Initiated(6)
Additional information:	https://www.energynetworks.org/assets/images/Resource%20library/ON21-2021%20Project%20Initiation%20Document%20Pre%20Consultation-PUBLISHED.02.02.21.pdf

Step 26

Step:	ESO Services and Transmission Reinforcement information in Embedded Capacity Registers (ECRs)
Step type:	Network actions
Description:	2021 WS2 Product 1 will implement proposals to include ESO Services and Transmission Reinforcement information in ECRs. Work to link to Tx reinforcements (e.g. Transmission Work Registers) and include ESO balancing Services information.
ENA ONP Product:	2021 WS2 P1
Timeline:	January 2021 - July 2021
Organisation type:	ENA ONP(1)
Progress:	Implementing(1)
Additional information:	https://www.energynetworks.org/assets/images/Resource%20library/ON21-2021%20Project%20Initiation%20Document%20Pre%20Consultation-PUBLISHED.02.02.21.pdf

Step 27

Step:	Implement updated Embedded Capacity Register
Step type:	Network actions
Description:	2021 WS2 Product 1 will implement proposals to include ESO Services and Transmission Reinforcement information in ECRs. TOs will support and implement these changes.
ENA ONP Product:	2021 WS2 P1
Timeline:	July 2021 - April 2022
Organisation type:	TO(3), ESO(1)
Progress:	Initiated(4)
Additional information:	https://www.energynetworks.org/assets/images/Resource%20library/ON21-2021%20Project%20Initiation%20Document%20Pre%20Consultation-PUBLISHED.02.02.21.pdf

Step 28

Step:	Extend ECR to include Assets <1MW
Step type:	Development / definition activity
Description:	2021 WS2 Product 1 will finalise proposals to include further DER resources including DNO costs to implement. Develop and enact proposals to source ECR data for additional assets.
ENA ONP Product:	2021 WS2 P1
Timeline:	January 2021 - December 2021
Organisation type:	ENA ONP(1)
Progress:	Implementing(1)
Additional information:	https://www.energynetworks.org/assets/images/Resource%20library/ON21-2021%20Project%20Initiation%20Document%20Pre%20Consultation-PUBLISHED.02.02.21.pdf

Step 29

Step:	Code Change to implement changes on Embedded Capacity Register
Step type:	Code change process
Description:	Further code changes relating to the extension of the ECR to include assets smaller than 1MW will take place.
ENA ONP Product:	2021 WS2 P1

Timeline:	March 2021 - December 2021
Organisation type:	
Progress:	Initiated(1)
Additional information:	https://www.energynetworks.org/assets/images/Resource%20library/ON21-2021%20Project%20Initiation%20Document%20Pre%20Consultation-PUBLISHED.02.02.21.pdf

Step 30

Step:	Implement updated Embedded Capacity Register
Step type:	Network actions
Description:	DNOs to implement updates on the Embedded Capacity Register as per developments under ENA ONP WS2 Product 1 and code changes.
ENA ONP Product:	2021 WS2 P1
Timeline:	January 2020 - December 2022
Organisation type:	DNO(6)
Progress:	Initiated(6)
Additional information:	https://www.energynetworks.org/assets/images/Resource%20library/ON21-2021%20Project%20Initiation%20Document%20Pre%20Consultation-PUBLISHED.02.02.21.pdf

Step 31

Step:	Facilitate development of customer connections hub
Step type:	Network actions
Description:	Develop in co-ordination with other network organisations a connections hub, providing a seamless connections experience to electricity networks across Great Britain that will help navigate customers through the connection process organisations a connections hub
ENA ONP Product:	N/A
Timeline:	April 2021 - December 2022
Organisation type:	ESO(1)
Progress:	Implementing(1)
Additional information:	

Step 32

Step:	Steps from individual organisations related to this activity
Step type:	Aggregated steps
Description:	This step aggregates steps required for individual DNOs or TOs to implement DSO functionality, but which have no wider industry relevance.
ENA ONP Product:	N/A
Timeline:	June 2020 - March 2023
Organisation type:	DNO(1), TO(1)
Progress:	Initiated(2)
Additional information:	

Activity C: Queue management/priorities

Description: Managing clear, consistent and non-discriminatory arrangements for how customers waiting for new capacity will be treated.

Figure 8 displays the roadmap for activity C which consists of 17 unique steps:

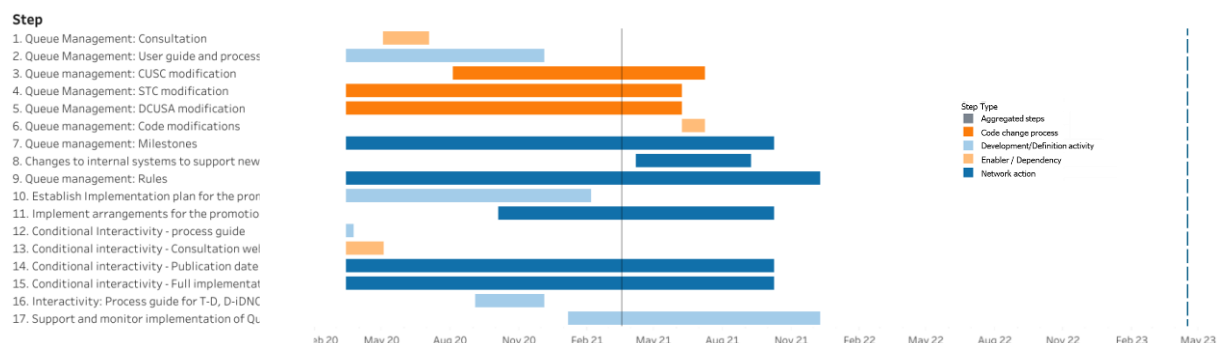


Figure 8 Connections and Connection Rights – Activity C roadmap

Figure 9 shows the total number of organisations' contributions to the unique steps. As of March 2021 the majority of steps (~69%) have been planned by network companies for implementation by 2021. Just over a fifth has been completed and only a few steps (9%) are being implemented.

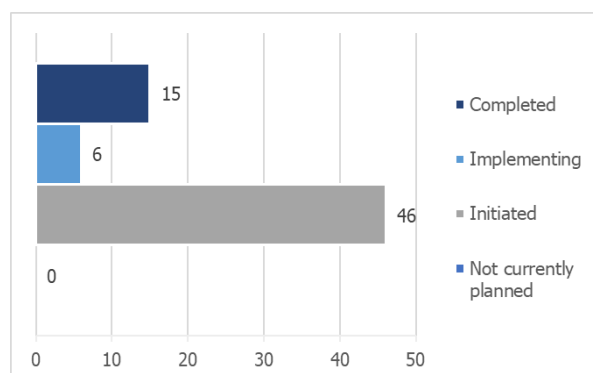


Figure 9 Progress against implementation of "Connections and Connection Rights" – Activity C (No. of steps-contributions of each organisation)

The tables on the following pages provide detailed information for each step under Activity C.

Step 1

Step:	Queue Management: Consultation
Step type:	Enablers / Dependencies / Barriers
Description:	ENA ONP Workstream 2 Product 2 (2020) will consult on the draft Queue Management User Guide and Process Maps, including roles and responsibilities.
ENA ONP Product:	2020 WS2 P2
Timeline:	May 2020 - July 2020
Organisation type:	ENA ONP(1)
Progress:	Completed(1)
Additional information:	This is an ENA ONP-led step. More information on the implementation plan that was set out by ENA ONP can be found below: ON20-WS2-P2 Queue Management User Guide-PUBLISHED.23.12.20.pdf (energynetworks.org)

Step 2

Step:	Queue Management: User guide and process maps
Step type:	Development / definition activity
Description:	ENA ONP Workstream 2 Product 2 (2020) will deliver an updated user guide and process map document informed by the previous consultation.
ENA ONP Product:	2020 WS2 P2
Timeline:	January 2020 - December 2020
Organisation type:	ENA ONP(1)
Progress:	Completed(1)
Additional information:	This is an ENA ONP-led step and dependent on outcomes of Step 1 of this activity (consultation). More information on the implementation plan that was set out by ENA ONP can be found here: ON20-WS2-P2 Queue Management User Guide-PUBLISHED.23.12.20.pdf (energynetworks.org)

Step 3

Step:	Queue management: CUSC modification
Step type:	Code change process
Description:	CUSC modification related to the Queue Management rules to be raised by the ESO. The CUSC modification will be delivered by the associated working group and approved by Ofgem.
ENA ONP Product:	2020 WS2 P2
Timeline:	August 2020 - July 2021
Organisation type:	Delivery Body
Progress:	Initiated(1)
Additional information:	CUSC Modification will be required to enable application of queue management as the movement of resources will affect customer charges and liabilities. The CUSC modification will be informed by steps 1 and 2. See: ON20-WS2-P2 Queue Management User Guide-PUBLISHED.23.12.20.pdf (energynetworks.org)

Step 4

Step:	Queue Management: STC modification
Step type:	Code change process
Description:	STC modification related to the Queue Management rules to be raised. The STC modification will be delivered by the associated working group and approved by Ofgem.
ENA ONP Product:	2020 WS2 P2
Timeline:	February 2020 - June 2021
Organisation type:	Delivery Body
Progress:	Implementing(1)
Additional information:	STC Modification will be required to enable application of queue management as the movement of resources will affect customer charges and liabilities. The STC modification will be informed by steps 1 and 2. See: ON20-WS2-P2 Queue Management User Guide-PUBLISHED.23.12.20.pdf (energynetworks.org)

Step 5

Step:	Queue Management: DCUSA modification
Step type:	Code change process
Description:	DCUSA modification related to the Queue Management. The DCUSA modification will be delivered by the associated working group and approved by Ofgem.
ENA ONP Product:	2020 WS2 P2
Timeline:	February 2020 - June 2021
Organisation type:	Delivery Body
Progress:	Implementing(1)
Additional information:	DCUSA Modification will be required to enable application of queue management as the movement of resources will affect customer charges and liabilities. The DCUSA modification will be informed by steps 1 and 2. See: ON20-WS2-P2 Queue Management User Guide-PUBLISHED.23.12.20.pdf (energynetworks.org)

Step 6

Step:	Queue management: Code modifications
Step type:	Enablers / Dependencies / Barriers
Description:	Ofgem to publish decision on the CUSC, DCUSA and STC modification for Queue Management.
ENA ONP Product:	2020 WS2 P2
Timeline:	June 2021 - July 2021
Organisation type:	Regulator(1)
Progress:	Initiated(1)
Additional information:	This is a step led by Ofgem and is an enabler for further implementation of Queue Management processes (steps 7, 8 and 9). For more information please see the following document: ON20-WS2-P2 Queue Management User Guide-PUBLISHED.23.12.20.pdf (energynetworks.org)

Step 7

Step:	Queue management: Milestones
Step type:	Network actions
Description:	All GB Network companies to include new Queue Management milestones in the Contracts. Network companies to complete the process, only following final approval of the Code Modification.
ENA ONP Product:	2020 WS2 P2
Timeline:	January 2020 - October 2021
Organisation type:	DNO(6), ESO(1), TO(3)
Progress:	Initiated(8), Implementing(1), Completed(1)
Additional information:	This step depends on outcomes of all the above steps and involves all the network companies (DNOs, TOs, ESO). DNOs will need to modify connection offers to include additional milestones and T&Cs, which has been flagged as a potential barrier. For more information please see the following document: ON20-WS2-P2 Queue Management User Guide-PUBLISHED.23.12.20.pdf (energynetworks.org)

Step 8

Step:	Changes to internal systems to support new Queue Management processes
Step type:	Network actions
Description:	Network companies to implement changes to internal system (e.g. IT), if and when required, to support the new Queue Management processes.
ENA ONP Product:	2020 WS2 P2
Timeline:	April 2021 - September 2021
Organisation type:	DNO(6), ESO(1), TO(3)
Progress:	Initiated(10)
Additional information:	This step depends on outcomes of all the above steps and involves all the network companies (DNOs, TOs, ESO). Inclusion of full principles of access and IT capabilities to support functionality such as dynamic queue management may lead to high complexity of implementation as per DNOs. For more information please see the following document: ON20-WS2-P2 Queue Management User Guide-PUBLISHED.23.12.20.pdf (energynetworks.org)

Step 9

Step:	Queue management: Rules
Step type:	Network actions
Description:	All GB Network companies to apply Queue Management rules.
ENA ONP Product:	2020 WS2 P2
Timeline:	January 2019 - December 2021
Organisation type:	DNO(6), ESO(1), TO(3)
Progress:	Initiated(10)
Additional information:	All network companies are planning to implement the Queue Management Rule. However this step is dependent on all the previous steps (1-8) and particularly the code changes and Queue Management Milestones. In addition, support from Ofgem and BEIS to enforce the rule has been raised as an enabler for effective implementation. See: ON20-WS2-P2 Queue Management User Guide-PUBLISHED.23.12.20.pdf (energynetworks.org)

Step 10

Step:	Establish Implementation plan for the promotion of flexibility in the Queue
Step type:	Development / definition activity
Description:	ENA ONP Workstream 2 to develop a common approach and implementation plan for the promotion of flexibility in the Queue, as per Ofgem/BEIS Smart Systems Flexibility Action Plan section 1.6.
ENA ONP Product:	2020 WS2 P2
Timeline:	March 2020 - February 2021
Organisation type:	ENA ONP(1)
Progress:	Completed(1)
Additional information:	This is an ENA ONP-led step which will mainly affect DNOs (see step 11 below). See: ON20-WS2-P2 Queue Management User Guide-PUBLISHED.23.12.20.pdf (energynetworks.org)

Step 11

Step:	Implement arrangements for the promotion of flexibility in the Queue
Step type:	Network actions
Description:	DNOs to implement common arrangements for promoting flexibility in the Queue as per ENA ONP Workstream 2.
ENA ONP Product:	2020 WS2 P2
Timeline:	October 2020 - October 2021
Organisation type:	DNO(6)
Progress:	Initiated(6)
Additional information:	This step depends on ENA ONP WS2 outcomes (see step 10). ON20-WS2-P2 Queue Management User Guide-PUBLISHED.23.12.20.pdf (energynetworks.org)

Step 12

Step:	Conditional Interactivity - process guide
Step type:	Development / definition activity
Description:	ENA ONP Workstream 2 Product 3 (2020) to publish a process guide for the implementation of the Conditional Interactivity Process pertaining to customer connections on transmission and distribution networks.
ENA ONP Product:	2020 WS2 P3
Timeline:	January 2020 - March 2020
Organisation type:	ENA ONP(1)
Progress:	Completed(1)
Additional information:	This is an ENA ONP-led started in 2019 and completed in March 2020. The step informs step 14, 15 and 16. The Interactivity Process Guide can be found here: ENA Open Networks Template (energynetworks.org)

Step 13

Step:	Conditional interactivity - Consultation webinar
Step type:	Enablers / Dependencies / Barriers
Description:	ENA ONP Workstream 2 Product 3 (2020) organises a webinar to consult stakeholders in the development of the process guide for the implementation of the Conditional Interactivity Process.
ENA ONP Product:	2020 WS2 P3
Timeline:	February 2020 - February 2020
Organisation type:	ENA ONP(1)
Progress:	Completed(1)
Additional information:	ENA ONP-led step, that has now been completed. ENA Open Networks Template (energynetworks.org)

Step 14

Step:	Conditional interactivity - Publication date
Step type:	Network actions
Description:	Each network company to provide go-live timescale of new interactivity process.
ENA ONP Product:	2020 WS2 P3
Timeline:	January 2019 - October 2021
Organisation type:	DNO(6), TO(3), ESO(1)
Progress:	Initiated(4), Implementing(1), Completed(5)
Additional information:	Network Companies have committed to implement Conditional Interactivity by the end of 2020. More details for this target date are continued in the document below: ENA Open Networks Template (energynetworks.org)

Step 15

Step:	Conditional interactivity - Full implementation
Step type:	Network actions
Description:	Full implementation by all GB Network companies is intended for the end of 2020, subject to development of processes and systems. It is expected that all transmission networks will change on the same day.
ENA ONP Product:	2020 WS2 P3
Timeline:	January 2019 - October 2021
Organisation type:	DNO(6), TO(3), ESO(1)
Progress:	Initiated(6), Implementing(1), Completed(3)
Additional information:	This step depends on ENA ONP outcomes (steps 12 and 14) and will inform the update of the Interactivity Process Guide (step 16 below). One of the barriers raised by a DNO is the requirement to modify their quoting system which is used to modify connection offers. More information can be found on the links below and on the 2020 PID: ENA Open Networks Template (energynetworks.org) and hOpen Networks Project Phase 2 2018 Project Initiation Document (energynetworks.org)

Step 16

Step:	Interactivity: Process guide for T-D, D-iDNO, D-D
Step type:	Development / definition activity
Description:	ENA ONP Workstream 2 Product 3 (2020) to update Process Guide to include T-D, D-D, D-iDNO interactivity processes.
ENA ONP Product:	2020 WS2 P3
Timeline:	September 2020 - December 2020
Organisation type:	ENA ONP(1)
Progress:	Completed(1)
Additional information:	This is an ENA ONP-led step that will use outcomes of step 15 to update the Process guide. More information on the 2020 PID: ENA Open Networks Template (energynetworks.org)

Step 17

Step:	Support and monitor implementation of Queue Management activities
Step type:	Development / definition activity
Description:	ENA Open Networks will support the implementation of Queue Management guidance (as per 2020 recommendations), code modification and development of connection offer terms. ENA ONP will also review Implementation activities for the promotion of flexibility in the Queue Management
ENA ONP Product:	2021 WS2 P2
Timeline:	January 2021 - December 2021
Organisation type:	ENA ONP(1)
Progress:	Implementing(1)
Additional information:	

Activity D: Commercial arrangements for constraints

Description: The mechanisms for managing network constraints through commercial means.

Figure 10 displays the roadmap for activity D which consists of 8 unique steps:

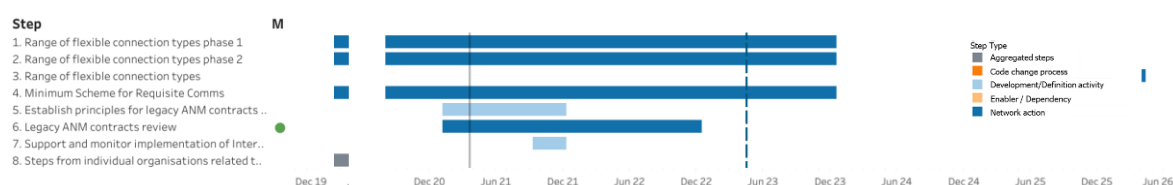


Figure 10 Connections and Connection Rights – Activity D roadmap

Figure 11 shows the total number of organisations' contributions to the unique steps. As of March 2021 exactly half of the steps of this activity are in the organisations' pipeline to implement but have not started yet ("Initiated"), roughly a third (~32%) have been completed. Just over 10% are being implemented and a few (7%) are not currently planned.

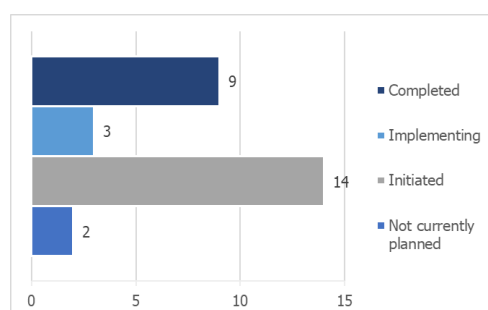


Figure 11 Progress against implementation of "Connections and Connection Rights" – Activity D (No. of steps-contributions of each organisation)

The tables on the following pages provide detailed information for each step under Activity D.

Step 1

Step:	Range of flexible connection types phase 1
Step type:	Network actions
Description:	DNOs to offer a range of flexibility connection types to customers in generation constraint areas.
ENA ONP Product:	N/A
Timeline:	August 2014 - December 2023
Organisation type:	DNO(6)
Progress:	Implementing(1), Completed(5)
Additional information:	This is a step led by DNOs, outside the ENA ONP workstreams. DNOs flagged that they would need to deliver or enhance functionality of their ANM system before they offer a full range of flexibility connections options. The development of this step will be further informed by T.E.F. projects' outcomes (see step 3 below)

Step 2

Step:	Range of flexible connection types phase 2
Step type:	Network actions
Description:	Flexible connection types to include storage and demand constraint flexible connections.
ENA ONP Product:	N/A
Timeline:	January 2017 - December 2023
Organisation type:	DNO(6)
Progress:	Not currently planned(1), Initiated(3), Completed(2)
Additional information:	This is a continuation of step 1. One DNO mentioned that flexible connections are agnostic to fuel type and type of connection. The development of this step will be further informed by T.E.F. projects' outcomes (see step 3 below)

Step 3

Step:	Range of flexible connection types
Step type:	Network actions
Description:	TRANSITION, EFFE and FUSION are involved stakeholders in the development of flexibility connection types to customers in generation constraint areas.
ENA ONP Product:	N/A
Timeline:	N/A
Organisation type:	TEF(1)
Progress:	Initiated(1)
Additional information:	This is a step that was added by TRANSITION and will inform (steps 1 and 2). For more information on TRANSITION please see link below: https://ssen-transition.com/

Step 4

Step:	Minimum Scheme for Requisite Comms
Step type:	Network actions
Description:	Implement Code Change for minimum scheme to ensure comms are of a standard to allow flexibility operation on all connections.
ENA ONP Product:	N/A
Timeline:	April 2016 - December 2023
Organisation type:	DNO(6)
Progress:	Not currently planned(1), Initiated(4), Completed(1)
Additional information:	This is a continuation of steps 1 and 2. A code change may be required. This code modification is not confirmed yet.

Step 5

Step:	Establish principles for legacy ANM contracts review
Step type:	Development / definition activity
Description:	Using work developed under Open Networks (2019 WS1A "The Interactions between Flexible Connections (ANM) and Flexibility Services" this product will develop a set of principles for reviewing the curtailment requirements specified in existing FC(ANM) contracts and, where it is possible, offer more or improved curtailment choices. As part of that review and in considering the next steps, we will consider general principles for "exit strategies" for ANM connectees to proactively request from DNOs. The principles will set out a consistent approach recognising that the needs of both the networks and the users may vary by location.
ENA ONP Product:	2021 WS1A P3
Timeline:	January 2021 - December 2021
Organisation type:	ENA ONP(1)
Progress:	Implementing(1)
Additional information:	https://www.energynetworks.org/assets/images/Resource%20library/ON21-2021%20Project%20Initiation%20Document%20Pre%20Consultation-PUBLISHED.02.02.21.pdf

Step 6

Step:	Legacy ANM contracts review
Step type:	Network actions
Description:	Dnos to establish a formal process for reviewing curtailment restrictions in Legacy Flexible Connection (ANM enabled) contracts 2021 WS1A P3 recommendations.
ENA ONP Product:	2021 WS1A P3
Timeline:	January 2021 - December 2022
Organisation type:	DNO(6)
Progress:	Initiated(5), Implementing(1)
Additional information:	https://www.energynetworks.org/assets/images/Resource%20library/ON21-2021%20Project%20Initiation%20Document%20Pre%20Consultation-PUBLISHED.02.02.21.pdf

Step 7

Step:	Support and monitor implementation of Interactivity Processes
Step type:	Development / definition activity
Description:	ENA ONP Workstream 2 Product 3 (2021) is a continuation of 2019 and 2020 WS2 P3 and will review outcomes of CMP328 and embed them into the interactivity processes developed in 2020.
ENA ONP Product:	2021 WS2 P3
Timeline:	September 2021 - December 2021
Organisation type:	ENA ONP(1)
Progress:	Initiated(1)
Additional information:	https://www.energynetworks.org/assets/images/Resource%20library/ON21-2021%20Project%20Initiation%20Document%20Pre%20Consultation-PUBLISHED.02.02.21.pdf

Step 8

Step:	Steps from individual organisations related to this activity
Step type:	Aggregated steps
Description:	This step aggregates steps required for individual DNOs or TOs to implement DSO functionality, but which have no wider industry relevance.
ENA ONP Product:	N/A
Timeline:	January 2019 - April 2020
Organisation type:	DNO(1)
Progress:	Completed(1)
Additional information:	