










DCUSA Change Report		At what stage is this document in the process?
<h1>DCP 350</h1> <h2>Creation of Embedded Capacity Registers</h2> <p><i>Raised on 10 July as a Standard Change</i></p>		01 – Change Proposal
		02 – Consultation
		03 – Change Report
		04 – Change Declaration
Purpose of Change Proposal: <p>The change seeks to require each DNO and IDNO to create a public register of all sites that use their networks and influence the operation of the GB power market. The Register would contain details of each connected site and would be kept up to date by each DNO and IDNO</p>		
	<p>This document is issued in accordance with Clause 11.20 of the DCUSA, and details DCP 350 – ‘Creation of Embedded Capacity Registers’.</p> <p>Parties are invited to consider the proposed amendment (Attachment 1) and submit their votes using the Voting form (Attachment 2) to dcusa@electralink.co.uk by 01 May 2020.</p> <p>The voting process for the proposed variation and the timetable of the progression of the Change Proposal (CP) through the DCUSA Change Control Process is set out in this document.</p> <p>If you have any questions about this paper or the DCUSA Change Process, please contact the DCUSA by email to dcusa@electralink.co.uk or telephone 020 7432 3011.</p>	
	 <p>Parties Impacted: DNOs, IDNOs, and CVA Registrants</p>	
	 <p>Impacted Clauses:</p> <p>Impacted Clauses: A new schedule [31] defining the contents of the Embedded Capacity Register and the obligations on the DNOs to keep the registers correct, up to date and publicly available.</p>	

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Timetable		 Contact: Code Administrator
The timetable for the progression of the CP is as follows:		 DCUSA@electralink.co.uk
Change Proposal timetable		 020 7432 3011
Activity	Date	Proposer: Alessandra De Zottis¹ (represented by Lisa Waters) UK Power Reserve (On behalf of the BEIS' Panel of Technical Experts (PTE)
Initial Assessment Report Approved by Panel	17 July 2019	 lisa@waterswye.co.uk
First Consultation issued to Parties	31 January 2020	 020 8239 9917
Change Report issued to Panel	09 April 2020	
Change Report issued for Voting	17 April 2020	
Party Voting Ends	01 May 2020	
Change Declaration Issued to the Authority	05 May 2020	
Authority Decision	09 June 2020	
Implementation	10 days after Authority approval	

¹ This change was raised by Lisa Waters (On behalf of the BEIS' Panel of Technical Experts (PTE)) and was originally sponsored by Tim Hammond of Solarplicity Supply Limited being a Party to the DCUSA, however Solarplicity Supply Limited have since ceased trading, and therefore a new sponsor was found.

1 Summary

What?

- 1.1 While it is possible to see the larger generators and interconnectors connected to, or using, the GB transmission networks via registers held by the ESO, it is not possible to see the embedded power plants/customers/storage, unless they are active Balancing Mechanism Units (BMUs). With increasing use of embedded generation, Demand Side Response (DSR) and storage for energy balancing and system management it is important that this market becomes more transparent. While some of these assets can be found on industry registers, such as the Capacity Market Register, there is no national repository for information on all of these sites. This proposal will therefore require DNOs (including when acting outside of their distribution service area) and IDNOs to publish and maintain a register of connected distributed energy resource with a capacity greater than 1MW. Distributed energy resource includes generators, demand sites (that have a contract to provide the DNO or IDNO with DSR/DSM²) and storage sites.
- 1.2 While the proposer believes that a national register will offer greatest value to the market, they recognise that this will in effect be comprised of regional registers, maintained by each DNO and IDNO, which would have identical data fields and which would allow for easy aggregation to create a GB wide view of the applicable embedded sites.

Why?

- 1.3 This CP has been proposed to address ongoing concerns of the BEIS Panel of Technical Experts (“PTE”), whose role is to impartially scrutinise and quality assure the analysis carried out by National Grid Electricity System Operator (ESO) for the purposes of informing the policy decisions for the Capacity Market (CM). In fulfilment of this role, the PTE have scrutinised the ESO’s Electricity Capacity Reports (ECRs), and for a number of years have been concerned that the lack of reliable data on embedded generation available to the ESO is impacting the ESO’s ability to accurately forecast. Without the necessary data to assess system security, the PTE believe that neither the Government nor the regulator can be sure that their policies are as robust as they could be.
- 1.4 Markets rely on information to economically and efficiently plan and operate their businesses, e.g. for the ESO to forecast and balance, to ensure that each DNO and IDNO knows what is on their networks, to facilitate effective competition (across the various energy markets), to inform investors and asset operators, to ensure that the industry as a whole will meet the needs of customers for secure supplies at lowest cost. The Government’s Data Task Force (DTF) is looking at the how the

² DSM – demand side management.

UK as a whole can make better use of data, and this proposal is aiming to gather and present data in a manner very much in line with the Ofgem/BEIS Energy Data Task Force's (EDTF's) goals.

- 1.5 The proposer suggests that the level of competition, and thus efficiency, within a market is driven by transparency, with all actors have access to additional information about the users of the system the market efficiency will increase delivering benefits to customers. The provision of transparent, robust, data that this change would deliver will facilitate:
- Generators/DSR sites/customers/storage owners being able to identify other system users in their local region which may influence operations and investments, in some instances increasing competition, in others collaboration and trading;
 - Wholesale market players will be able to identify which sites may be influencing the wholesale prices and the volume of capacity that could move between the various parts of the market (such as BM, ancillary services, etc.);
 - Investors, including customers, would be able to more easily see how the market is developing, identify gaps in the market, and consider options for future investments in technology and location;
 - New build and existing embedded sites may also be able to better understand who their projects are interacting with for connection capacity and may be able to trade rights (depending on Ofgem's charging review) or swap locations, etc. to get the most efficient outcome for their investments;
 - Suppliers may be able to improve their forecasting with a better understanding of how the market may operate, such as being able to see changes in say solar capacity on a monthly basis (as proposed in this consultation) rather than via annual updates;
 - The ESO in undertaking its market wide forecasts, such as the FES, Summer and Winter Outlooks and Capacity Market Report, would have access to much more robust data on actual installed capacity of different types of resources, their de-ratings, location, etc.; and
 - Government, Ofgem and their advisers will also be able to far more easily see how well policies are working, having better data to monitor policies such as the roll out and output of renewable or new technologies, or identify if trading capacity would be practical, etc.

How?

- 1.6 With the growth in embedded generation, to inform the market and help with market forecasts done by the ESO, a register of embedded generation would be created. This proposal seeks to introduce a standardised register, containing specific details pertaining to embedded generation, customers (including) DSR, storage sites and other technologies as they develop, that are connected or are planning to connect to, each DNOs and IDNOs network. Obligations will be placed on each DNO and IDNO to populate the data items contained in the register for each site, and to then update and maintain the information on an ongoing basis. It was proposed that the registers are aggregated into a national register to be made publicly available. As the DNOs had concerns about a national

register, and a location for a national register is yet to be decided, the proposal is that regional registers will be produced by each DNO and IDNO publishing their register on their individual websites and in the standardised format such that they may be easily amalgamated together.

- 1.7 It should be noted that the above diverges from the original 'intent statement'. As the change progressed via discussions with a Working Group set up to develop the change, it became apparent that whilst the intent statement only mentioned DNOs, that it would also encompass IDNOs. The other aspect which diverges is that although originally envisaged to be a single national register, the DNOs felt that the involvement of a third party who publishes such data brings extra complexities around sharing of data and so to ensure base information is published as soon as possible the change only seeks to oblige each DNO and IDNO to publish their register on their individual websites. Therefore, it was proposed that the intent statement was amended as set out below.

To require ~~the DNOs~~ each DNO and IDNO to create a ~~national~~ public register of all sites that use their networks and influence the operation of the GB power market. The Register would contain details of each connected site and would be kept up to date by ~~the DNOs~~ each DNO and IDNO.

2 Governance

Justification for Part 1 Matter

- 2.1 DCP350 is considered to be classified as a Part 1 Matter, as it is designed to introduce a new requirement on network operators to share data that is not currently shared and this may potentially have a material impact on competition, notably in generation. It is for that reason that it is felt that the change should be provided to the Authority for final decision.
- 2.2 DCP 350 has been designated as a standard change.

Requested Next Steps

- 2.3 The Panel considered that the Working Group have carried out the level of analysis required to enable Parties to understand the impact of the proposed amendment and to vote on DCP 350.
- 2.4 The DCUSA Panel recommends that this CP:
- Be issued to Parties for Voting.

3 Why Change?

Background of DCP 350

- 3.1 The Proposer believes that the Government's policies around environmental goals, security of electricity supply, etc., will be more efficiently implemented if the ESO can undertake more robust forecasting and reporting on market changes to inform policy. The Panel of Technical Experts (PTE) has been disappointed by the lack of data available to the ESO on embedded generation and it is their belief that this CP will help not only the ESO, but all market players and policy makers.

- 3.2 There is a market wide need to better understand the role of embedded sites, and that need is becoming increasingly urgent as embedded generation, storage and DSR in particular increases. The market is in need of better data for forecasting, a fact the ESO acknowledges, but other parties are also becoming increasingly concerned by the lack of transparency in the market. For example, policy makers such as BEIS and Ofgem have challenges in fully understanding the impact and implications. Likewise, traders cannot see the volumes of different types of generation which may join the BM or TERRE in future. The market does not know the likely volumes that could access ancillary services market, the degree of competition for the provision of regional services, etc. The lack of data transparency is therefore limiting the ability of all actors to deliver the most economically efficient market outcome for customers.
- 3.3 Historically the ESO has created its own register using the limited data available to it. The quality of this register varies according to the datasets available and the recent closure of the Renewable Obligations and Feed in Tariff programmes have made this task harder. The register also does not include all the data attributes that the ESO deems necessary to undertake its role in the most efficient and effective way, for example identifying different technology types. The Proposer believes that the most efficient way to get the data is to require the DNOs and IDNOs to maintain the data for their own regions as they know what is connected to their own networks, they are the first port of call for new connection requests and parties are required to notify them of any site changes under the terms of their connection agreements.

Change Proposal Background

- 3.4 The Proposer advocates that DNOs and IDNOs are the industry parties best placed to create these regional registers, and keep them up to date, which can eventually be used to create a GB wide register that the market can rely on.
- 3.5 As it is expected that data will be provided for both existing sites and those contracted to connect, it is recognised that the DNOs and IDNOs operate connection queues and individual connections can be interactive with each other. Therefore, the Proposer believes that it may be advantageous to find a way to show which prospective generators are interacting with each other. This may facilitate trading of capacity, creating co-located sites or better inform the location of new connection.
- 3.6 The Proposer believes that requiring that the MPANs associated with each site are also disclosed to allow parties to extract maximum value from the data, such that the generation from each fuel type could be collected under the BSC and passed to the ESO, BEIS and Ofgem to allow for easier monitoring of aggregate emissions which could inform wider policies. It is noted that MPANs are provided in the CM Register, and by the DNOs and IDNOs for EHV sites under their charging methodology, so for many sites this data is already public, albeit some DNOs publish Customer name alongside the MPAN whilst others anonymise the customer name with a tariff or site number.
- 3.7 It is further proposed that the register will include data, that DNOs and IDNOs presently capture, that identifies each technology types and locational information for each site, as there may be an added benefit to the ESO and/or Suppliers by being able to specifically view the location of renewable generation assets and linking this with say local weather forecasts as tool to understand expected

output given the operation of some renewable technologies is weather dependent. Location is also key to those looking to examine new connection opportunities. To align data provisions across transmission and distribution it has been proposed that, as well as the address, an OS Grid Reference is provided, as the CM Register already requires this data and more rural sites may be easier to locate.

- 3.8 This proposal would be to set-up the register for all sites >1MW connection capacity (as it is believed this data should be easy to locate and transpose).
- 3.9 The CP requires that the registers would be made available in the public domain, which aligns with the approach used by the ESO in publishing their registers. The Proposer notes that whilst DNOs and IDNOs do publish Long Term Development Statements (LTDS), these are password protected, and hold some of the information this CP seeks to include, but not enough information to be of value for the detailed forecasting that the ESO needs for its role in the CM. The Proposer does not support any password protection as that appears to create an unnecessary barrier to access.
- 3.10 Who owns the data needs to be considered in constructing the register, but the Proposer suggested that as connection agreements are held by the DNOs and IDNOs that the data is theirs and they can therefore publish it, as the ESO does with the data they hold. For Capacity Market plant the majority of the data is on the CM Registers, so would appear to present no publication issues. MPANs are also held by other bodies, such as Elexon for energy settlement, and many sites will be on other registers such as the FIT register held by Ofgem.
- 3.11 In order to make the embedded capacity registers as robust as possible, it is proposed that there is a mechanism which would allow for any data errors to be brought to the relevant DNO or IDNO's attention and an obligation on the DNO or IDNO to make any corrections upon uploading the next version.
- 3.12 It is suggested that by allowing greater information transparency, this will in turn lead to an increase in the effective use of resources and create a more efficient and competitive market. The more efficient the market is then the better the value it will deliver to customers. The Proposer believes that with greater information transparency, Ofgem and BEIS could potentially monitor the impact of, and where needed fine tune, their policies more easily to enhance the benefits for customers and the environment at a lower cost. With a target of net zero carbon by 2050 this data will provide a far better view of the uptake of technologies such as solar and changes in demand, for example as we see EV charging develop and uptake of storage technologies.
- 3.13 On a microeconomic level, the Proposer believes that placing an obligation on network companies for the provision of certain data that is not currently openly shared will allow the correct de-rating of different technology types under the capacity market. At the current time the ESO's modelling for the de-rating factors under the Capacity Market is limited by lack of data on the actual operation of the embedded generators, with a result that a TO connected 800MW gas plant has the same de-rating as a DNO connected 5MW gas fired generator. The ESO has suggested that the embedded, conventional plants may require a different de-rating than their larger competitors, but it does not have the data to support a change. It is important that the ESO are able to evaluate the contribution

from embedded generation more robustly as this would ensure that capacity providers are appropriately rewarded for their contribution to security of supply.

- 3.14 Supplier balancing includes the embedded generators, as Suppliers balance at each GSP Group, and with additional data the Suppliers may be able to better understand the contracted background in any given area and use the data to inform their own forecasting. Reducing their imbalance exposure will reduce supplier costs and benefit customers. Suppliers may also be identify specific sites that could offer services to help them balance, for example customers with DSR capabilities who can help Suppliers reduce their exposure to peak prices or help manage a system stress event.
- 3.15 For traders and wholesale market participants this data will also substantially improve their market knowledge, analytics and forecasting. They will know which assets can respond to price signals, the rate of deployment of specific technologies, etc. and this is expected to enhance competition and therefore improve the efficiency of the market.
- 3.16 The Proposer acknowledges that there will likely be a cost associated with this CP. The Proposer asserts that the initial start up cost and then ongoing costs of keeping the register up to date will be outweighed by the benefits in economic and operational efficiency in the GB electricity market, which in turn will deliver benefits to customers. At this stage it is difficult to quantify the scale of the benefits, as an example and for illustrative purposes only, were this data to show that the capacity market was over buying say 100MW and the clearing price was £25/kW then this would be a saving of £2.5m for customers. As the benefits are expected to be spread across a wide variety of parties and decisions. It is suggested that the scale of benefits will outweigh the minimal costs of keeping the registers updated.

4 Solution

DCP 350 Working Group Assessment

- 4.1 The DCUSA Panel established a Working Group to assess DCP 350. This Working Group consisted of representatives from DNOs, Suppliers, IDNOs and the ESO as well as observers from Ofgem and BEIS. Meetings were held in open session and the minutes and papers of each meeting are available on the DCUSA website – www.dcusa.co.uk.
- 4.2 Following the initial meetings of the Working Group, it was agreed that the proposed solution set out in the CP form should be further developed. In undertaking this development, the Working Group split out six components of the CPs, being:
- The exact items to be contained in the ECR and the definitions of each item;
 - The format used to publish the ECR;
 - The location(s) where the ECR is to be made available;
 - The frequency by which the ECR is to be updated;
 - The governance arrangements needed to ensure the ECR is populated in a consistent manner and a mechanism to allow for amendments to the structure of the ECR; and

- Interactions with data privacy regulations and potentially commercially sensitive information.

- 4.3 The Working Group further developed the solutions for the above six points and consulted with industry.
- 4.4 The Working Group analysis, with consideration of the consultation responses are detailed below. Full details of the consultation and industry responses can be found in Attachment 3.

Amendment to the Intent of DCP 350

- 4.5 The original intent statement for this change was as below:

“To require the DNOs to create a national, public register of all sites that use their networks and influence the operation of the GB power market. The Register would contain details of each connected site and would be kept up to date by the DNOs.”

As detailed above within Section 1, whilst the original intent statement only mentioned DNOs, it was agreed that this change should also encompass IDNOs. The other aspect which diverges is that although originally envisaged to be a single national register, it was noted that the involvement of a third party who publishes such data brings extra complexities around sharing of data and so to ensure base information is published as soon as possible the change only seeks to oblige each DNO and IDNO to publish their register on their individual websites.

With the above considered the intent statement was amended to the following:

“The change seeks to require each DNO and IDNO to create a public register of all sites that use their networks and influence the operation of the GB power market. The Register would contain details of each connected site and would be kept up to date by each DNO and IDNO”.

- 4.6 Within the industry consultation, respondents were asked whether they were comfortable with the proposed amendments to the intent statement of this change. There was general acceptance and whilst some respondents stated they would have preferred the original proposal, there was an understanding that this CP can progress faster if a national register is considered post this change.
- 4.7 Respondents were also asked if they were supportive of the principles that underpin this CP, which is to increase the availability of accessible data which is expected to improve the economic and efficient operation of the energy market, while driving towards a lower carbon economy. All respondents stated that they were supportive of the principles of the CP, with some respondents stating they would like to see the threshold of 1MW lowered in the future. Also, it was reiterated by some respondents that a national register in the future would be of benefit.
- 4.8 All respondents stated they understood the intent of DCP 350.

The exact items to be contained in the ECR and the definitions of each item

- 4.9 The Working Group discussed the data item which the Proposer had specified within the CP form. It was noted early in the Working Group that DNOs had created a System Wide Resource Register under the Open Networks project and that where possible the data fields within the ECR would be aligned with the SWRR. Therefore, effectively this main purpose of this CP would be to request additional items above what is already provided by DNOs within the SWRR.
- 4.10 The below items were initially proposed for the ECR and subsequently included in the consultation issued to industry.

General Data

- **MPAN:** The core meter point administration number, a 13-digit reference used in MPAS to identify the relevant Metering Point
- **Customer Name:** Name of party that is connected or contracted to connect.
- **Customer Site:** Name of customer site/project name.
- **Address Line 1:** Site location
- **Address Line 2:** Site location
- **Town/City:** Site location
- **Country:** Site location
- **Postcode:** Site location
- **Location (X-coordinate): Eastings (where data is held):** X coordinates for development site in British National Grid
- **Location (Y-coordinate): Northings (where data is held):** X coordinates for development site in British National Grid
- **Grid Supply Point:** the point of delivery from the transmission system to a distribution system that is linked with the Customer Site
- **Bulk Supply Point:** the supply point on the DNO system (representing an EHV/EHV transformation level) linked with the Customer Site
- **Primary:** the relevant primary substation on the DNO system linked with the Customer Site.
- **Licence Area:** Licence area customer site is connected within
- **Primary Resource Type:** Meaning any of the below resource types used by technology in the production of electricity:
 - Gas, Gas oil, Diesel, Marine, Wind, Solar, Biomass, Hydro, Pumped storage, Storage, Non-biodegradable Waste
- **Primary Technology / Plant Type:** Meaning any of the below types technologies that export electricity onto a distribution network:
 - Advanced Conversion Technologies, Anaerobic Digestion, Biomass (co-firing), Biomass (dedicated), Combined Cycle Gas Turbine (CCGT), Combined Heat and Power (CHP), Compressed Air Storage (CAS), Diesel Generator, Flow-state batteries, Flywheels, Fuel Cell (Hydrogen), Gas oil / kerosene Generator, Gas Reciprocating, Hot Dry Rocks (HDR), Landfill Gas, Large Scale Hydro, Liquid Air Energy Storage, Oil & AGT Generator, Open Cycle Gas

Turbine (OCGT), Photovoltaic Array, Pumped Storage Hydroelectricity, Sewage Sludge Digestion, Shoreline Wave, Small Scale Hydro, Solid-state batteries, Supercapacitors, Tidal Barrage and Tidal Stream, Waste Incineration, Wind Offshore, Wind Onshore"

- **Primary Resource Type - Installed Capacity (MW):** This is the installed capacity of the "Primary Resource Type" expressed in MW.
- **Primary Resource Type - Installed Capacity (MVA):** This is the installed capacity of the "Primary Resource Type" expressed in MVA
- **Resource Type 2:** Where there is more than one plant type at a site, the ""Resource Type 2"" and ""Resource Type 3"" fields would be used to show the resource types additional to the ""Primary Resource Type""

Meaning any of the below resource types used by technology in the production of electricity:

- Gas, Gas oil, Diesel, Marine, Wind, Solar, Biomass, Hydro, Pumped storage, Storage, Non-biodegradable Waste"
- **Technology / Plant Type 2:** (Defined as above for "Primary Technology / Plant Type")
- **Resource Type 2 - Installed Capacity (MW):** This is the installed capacity of the "Resource Type 2" expressed in MW
- **Resource Type 2 - Installed Capacity (MVA):** This is the installed capacity of the "Resource Type 2" expressed in MVA
- **Resource Type 3:** (Defined as above for "Resource Type 2")
- **Technology / Plant Type 3:** (Defined as above for "Primary Technology / Plant Type")
- **Resource Type 3 - Installed Capacity (MW):** This is the installed capacity of the "Resource Type 3" expressed in MW
- **Resource Type 3 - Installed Capacity (MVA):** This is the installed capacity of the "Resource Type 3" expressed in MVA
- **ANM Connection:** Is the connection contingent on an Active Network Management (ANM) arrangement (including timed connections)?
- **Connection Status:** "Connected" or "Accepted to Connect"?
- **Last Updated:** Date on which item was last updated in the register

Already Connected

- **Installed Generation Capacity (MVA):** This is the total generation connected at the site expressed in MVA

- **Export Capacity (MW):** This is the total MW export capacity permitted as per the connection agreement
- **Export Capacity (MVA):** This is the total MVA export capacity permitted as per the connection agreement
- **Import Capacity (MW):** This is the total MW import capacity permitted as per the connection agreement
- **Import Capacity (MVA):** This is the total MVA export capacity permitted as per the connection agreement
- **Date Connected:** Date Project connected to network and energised

Accepted to Connect

- **Accepted to Connect Generation Capacity (MVA):** This is the total additional generation that is accepted to connect at the site expressed in MVA
- **Export Capacity (MW):** This is the total additional MW export capacity permitted as per the connection agreement
- **Export Capacity (MVA):** This is the total additional MVA export capacity permitted as per the connection agreement
- **Import Capacity (MW):** This is the total additional MW import capacity permitted as per the connection agreement
- **Import Capacity (MVA):** This is the total additional MVA import capacity permitted as per the connection agreement
- **Date Accepted:** Date customer contracted with GBSO/DNO/IDNO
- **Target Energisation Date:** Estimated date of energisation. This date is likely to change to reflect the latest date notified by customers

Providing Services

- **Field Tag:** Field Descriptor
- **Distribution Service Provider (Y/N):** Does the resource provide services to a DNO?
- **Transmission Service Provider (Y/N):** Does the resource provide services to the ESO or a TO?
- **Reference:** A unique reference to link to the Providing Services tab

Accepted to Connect

- **Connection Queue Management Position:** Queue position of customer in relation to the linked reinforcement works
- **Distribution Reinforcement Reference:** Unique reference to relevant distribution reinforcement required for connection
- **Transmission Reinforcement Reference:** Unique reference to relevant transmission reinforcement required for connection

4.11 As previously stated, the Working Group noted that there are currently SWRRs that already publish some of the data items. Where this is the case the definitions have been aligned. Within the consultation the Working Group welcomed views on whether there was support for the inclusion of the data items that have been identified above and whether other data fields should be included either now or in the future.

Changes to the ECR Content

4.12 In response to the Working Group's consultation, a number of parties suggested some additions and alterations to the proposed register. The changes were all aimed at clarification as well as future proofing, by recognising new technologies like geothermal, and the different dynamics of emerging technologies such as storage.

4.13 As with many of the fields in the register, the Working Group recognised that populating the register with some of the site attributes will take more time than the fields with data the DNOs and IDNOs have easily to hand. However, the group agreed that in principle all of the data would add to transparency and specifically help the ESO in advising the Government on Capacity Market parameters. It was also agreed that all parties should be encouraged to contact the relevant DNO to provide missing data, comments on accuracy of existing data (i.e customer name) or update changes where they may have been missed. For new sites, the DNOs agreed that an adjustment to their connection processes could ensure the data was captured. The ESO also offered to review data ahead of publication and to help populate any gaps in the register, with the data they may have available to them that the DNOs may not.

4.14 The specific additions and changes to the ECR that have been made, following Working Group review and consideration of the consultation responses received, are outlined below:

- Addition of storage duration – the Capacity Market de-rates storage by its duration and from a system management point of view for the ESO, and potentially in the future the DSOs, knowing the volume of and duration of storage should improve the efficiency of system planning and balancing;
- CHP status is now defined separately to technology type – with the incentives around renewable heat and potential differences in operation between, for example, gas CHP and Anaerobic Digestion as this granularity was believed helpful in forecasting;
- Thermal and hydro categories clarification – this is to align to the G98/G99 data already held by the DNOs so making it easier to clarify sites on a consistent basis across the networks registers;

- Addition of Hydrogen and Geothermal - to future proof the register as the GB power sector decarbonises; and
- Separation of Tidal Lagoon and Tidal Stream - as these plants are likely to have different running profiles and the lagoons allow for some element of control, this was again about future proofing.

4.15 As well as changing these fields, it was agreed to move some categories from the “Technology” list to the “Resource” list such that the resource list is focused on fuel source, whilst the technology list is focused on the type of asset that uses this fuel. For example, landfill gas and sewage gas which have been moved to the resource list as the technology is the same, but the fuel differs. This was felt likely to make it easier for different parties to manipulate the data in more meaningful ways depending on what it was being used for.

4.16 The updated ECR can be found in Attachment 4 and it is proposed that this becomes the first version for completion by DNOs and IDNOs once implemented.

4.17 It is noted that initially there may be some gaps for some of the data fields, where DNOs and IDNOs do not currently hold the data.

4.18 To assess the opportunity for DNOs to provide this data in the future a RFI was submitted requesting DNOs to provide indicative costs, which is detailed in sections 4.47 to 4.55 below. These costs were devised collaboratively by all six DNOs via liaison with ENAs Open Network project.

Format and Location of the ECR

4.19 The Working Group agreed that the register would be set up in excel format and published in the same format by all DNOs and IDNOs on their web-sites.

4.20 The Working Group considered the Proposer’s view as set out within the CP form, which was that the ECR is to be made available on the public facing pages of the DCUSA and/or ESO website (the Public Pages) that are accessible by all.

4.21 The working group, including Ofgem, discussed a practical solution whereby DNOs would publish the data online in a consistent format, which could then be consolidated by a Third Party (e.g. Elexon, ElectraLink or the ESO) for analysis purposes.

4.22 The Working Group discussed the above solution with respect to the publication of a national register by a third party data and concluded that whilst ideally a combined register would be of most use to all market participants, the most expedient solution is for each DNO and IDNO to publish their individual register on their own website. It was also agreed that the registers are to be made publicly available, and in the standardised format such that they may be easily amalgamated together.

4.23 Within the consultation, industry were asked whether they agree with the format chosen by the Working Group for publishing the ECR and if they agree with the proposal that each DNO and IDNO is to publish a populated version of the common ECR on their individual website. In general respondents were supportive of the format chosen for publishing the ECR as a starting point.

- 4.24 Some concerns were raised regarding knowing who all the IDNOs are once these registers are published. It was noted that all reasonable steps will be made to ensure that there is easy access to all the active IDNO registers with the DNO's offering to put links to the IDNOs within their networks onto their own websites. This should aid parties in finding all registers within a given region.
- 4.25 Whilst supportive of the above, some respondents echoed their desire of the proposer to see a national register in the future.

The frequency by which the ECR is to be updated

- 4.26 Within the CP form, it was proposed that the ECR be updated by each DNO and IDNO not less than weekly if there are changes to be made. The Working Group discussed this, with some members pointing out that a 'not less than weekly' update regime would potentially be quite onerous and may require a dedicated person to be employed on that basis.
- 4.27 To understand the frequency on which the ECR should be updated on, the Working Group agreed that it would be beneficial to know how many new connection/ alteration requests are received by DNOs and IDNOs each week/ month. It was agreed that a sample from within the group would be sufficient and that a wider RFI was not needed and as such, one DNO member and one IDNO member sought confirmation from with their businesses.
- 4.28 The information obtained by the IDNO member noted that they have an average of one per month having taken account of the requests they had received over a period of a couple of years.
- 4.29 The information obtained by the DNO member noted that across their licence areas they have a weekly average of 0.185 new Connection Agreements for export customers with a connection capacity greater than 1 MW, which equates to a 0.79 on a monthly basis and 9.5 annually. The member also confirmed they have a weekly average of 0.32 requests for amendments to connection agreements for export customers with a connection capacity greater than 1 MW which equates to 1.39 on a monthly basis and 16.75 annually.
- 4.30 Given the above, the Working Group agreed that DNOs and IDNOs should update the register on a monthly basis and in drafting the legal text, have included a point in time for each month on which each DNO and IDNO will be expected to publish their register. It was agreed that for consistency, the publication of the register is not dependant on whether any updates have been made to it or not.
- 4.31 The working group noted that some of the ECR data will change over time, for example, if a site is providing ancillary services. The holder of this data is the ESO, not the DNOs. While the ESO publish some of this data on their various websites there is no formal requirement on them to provide the data to the DNOs. Furthermore, the ESO often provides unit names rather than site details so it will not always be easy for a DNO to translate the site ID used by the ESO into a site location on the new register. The Proposer therefore felt that a future obligation on the ESO to provide this information to the DNOs, in a matching format, would help ensure the data is robust. While the DCUSA cannot be used to put obligations on to the ESO, the issue was noted to Ofgem and the

Proposer suggested the ESO commit to providing the data informally or raise a code change to obligate it (either to the CUSC or the Grid Code).

- 4.32 Within the industry consultation respondents were asked whether they agree with the proposal to mandate that the ECR is to be updated on a monthly basis on a set date. Most of the respondents agreed that updating the ECR monthly is appropriate.

The governance arrangements needed to ensure the ECR is populated in a consistent manner and a mechanism to allow for future amendments to the structure of the ECR

- 4.33 To ensure that each register is consistent in its format and equally that it is populated using a consistent/ common approach by all DNOs and IDNOs, the Working Group agreed the need for a set of rules and definitions to be created. It was agreed that the overarching design and formal rules/ obligations should be set out within the legal text and items such as the specific fields and their definitions should be maintained outside of the DCUSA text and within the register so that they can be amended without the need for a CP to be raised. It was also agreed that the specific fields and their definitions are to be referenced by DNOs and IDNOs when populating the register to ensure consistency and for interested market participants to be able to understand the data contained in the register.
- 4.34 It was agreed that a process by which updates can be made to the template register would also be needed and that this process can be controlled by the DCUSA Panel who'd review any request to alter the content as the market develops. i.e. a new technology joins the market. The legal text for DCP 350 is provided as Attachment 1 and contains the process by which proposed amendments can be put before the Panel, who will determine whether or not to accept the requested amendment and how this is communicated to DNOs and IDNOs and the wider market.
- 4.35 As well as agreeing items to be added to the register, the Panel would agree the timetable by which additions should be added. This may be very quickly or may require consultation with the market to agree the definitions of the items to be added. It is vital that the market understands what each data item is, as common understanding will improve competition.
- 4.36 The Working Group proposes that the following items be included in the register and thus is stipulated in the legal text:
- (a) Contact details for each DNO and IDNO so that a site which believes its details are incorrect can contact for a correction;
 - (b) A date to show when the register was last updated;
 - (c) Links to maps for each DNO region so that parties can identify regions referred to;
 - (d) Where applicable, links to each DNO's heat map;

(e) To avoid any doubt as to the reasons a field may be left blank, an instruction that the words 'data not available' are to be used where data is not held for a specific field against a site.

4.37 Within the consultation respondents were asked whether they believe that the governance arrangements proposed by the Working Group as to how the ECR is populated will lead to DNOs and IDNOs updating it in a consistent manner and if they agree with the Working Group's proposed mechanism to deal with future amendments to the structure of the ECR.

4.38 Most respondents agreed that this will provide a consistent approach and agreed with the proposed mechanism to deal with future amendments to the structure of the ECR. Some comments were received regarding ensuring that the governance process is reviewed after a period of time to ensure it is working effectively.

Interactions with data privacy regulations and potentially commercially sensitive information

4.39 The Panel requested that in addition to the standard ToR, the Working Group consider and report on three specific areas, which included seeking appropriate legal advice with respect to some proposed items to be included in the ECR that could be private/ confidential in nature.

Guidance obtained by the Secretariat

4.40 Following Working Group discussions related to this change and potential data privacy regulations and potentially commercially sensitive information the Secretariat had a conversation with the DCUSA Ltd legal advisors, during which the legal advisors highlighted that the legal issues to consider include:

1. *"First and foremost, the question is whether or not sharing this information (with specific entities or publicly) is a 'good idea'. Questions of data sharing always involve a balance of policy considerations – the collective benefit of sharing the data, against the dis-benefit to the entity whose data is being shared.*
2. *The legal implications are important but definitely secondary. This is because there is no law that stops data sharing, only laws that prevent unjustified data sharing. If there is a sensible and justifiable reason for sharing the data, then this will enable the legal hurdles to be cleared.*
 - a. *section 105 of the Utilities Act 2000, which places a duty of confidentiality on licence holders;*
 - b. *the contractual confidentiality obligations owed to connectees under the connection contracts (primarily the NTC) and owed to suppliers under the DCUSA; and*
 - c. *the Data Protection Act 2018, which prevents the processing (including disclosure) of personal data without a lawful basis (which would include legal obligation or legitimate interest)."*

4.41 Further to this which the group noted as being in line with the view provided by Ofgem below, but not official legal advice in itself, the DCUSA Ltd legal advisors provided a useful summary of the legal implications which was used by the Working Group as a guide:

3. *"If Ofgem approves a change to the DCUSA which obliges distributors to share or publish this information, then it will be a licence obligation and section 105 will not prevent disclosure. Amendment of the DCUSA would also deal with (b) above, because the contractual provisions in the NTC and DCUSA allow for disclosure where required for licence compliance.*
4. *The data protection angle is very slightly more complicated. Compliance with a legal obligation is a lawful basis for processing, but this reference to legal obligation excludes contractual obligations. As the DCUSA is a contract, you might think that you can't rely on this, but because compliance with the DCUSA is also a licence obligation (arising from statute), this should be sufficient. Even if it wasn't, Ofgem's assessment of the data sharing pursuant to its statutory duties would basically be an assessment of whether there was a legitimate interest in sharing the data, and so distributors could rely upon this same legitimate interest assessment."*

View provided by Ofgem

4.42 The Working Group noted that Ofgem and BEIS have recently been undertaking a number of initiatives related to data and the need for industry data to be more open and transparent. With this understanding, the group sought feedback from Ofgem as to a view of how Distributors might be able to publish data that would otherwise be prohibited by Section 105 of the Utilities Act. In summary, the view provided by Ofgem is that DNOs have an obligation to develop and maintain an efficient, co-ordinated and economical system of electricity distribution, and if publishing connection data is required to achieve this then this code modification should progress. There are options to publish such data under the current legal framework. Acknowledging concerns around sharing customers' data, Ofgem encouraged all DNOs to contact users/ connectees to identify and address confidentiality/ privacy, where necessary through redaction.

RecorDER Project - Legal and Regulatory Report on the sharing and publishing of data February 2020

4.43 The ESO, Electron, SP Energy Networks and UKPN are collaborating on an innovation project known as the RecorDER Project. The RecorDER project is looking at ways to make publicly available generation and storage asset data and it therefore has many similarities to the Open Networks SWRR project and DCP 350's ECR. The RecorDER Project identified that there were issues around publishing customer's data and have therefore sought legal advice from Pinsent Masons. This report can be found in Attachment 7.

4.44 Within the Pinsent Masons' report, is the following statement:

"As at November 2019, a DCUSA mod 350 is under consideration, but not all SWRR Data fields have been included in the modification request. It is recommended that a discussion take place between the RecorDER project partners and the DCP 350 Working Group to what extent the requested data fields can be expanded. Also consider whether timescales are appropriate for the

RecorDER Project. Note that if DCUSA mod 350 was amended to capture all of the SWRR fields and the modification was subsequently implemented to permit the sharing of SWRR Data under DCUSA, this would permit the sharing of SWRR Data under the remaining Electricity Codes, save for the Distribution Code, which does not contain the relevant equivalent carve out from confidentiality set out in the other Electricity Code. Accordingly, the issue caused by the restrictions under the Distribution Code would require to be addressed through either a Distribution Code amendment or appropriate Standard Licence Conditions amendments as recommended under section 2.4.1 (a) above”.

- 4.45 As stated above, it was noted in the Working Group that DNOs had created a SWRR under the Open Networks project and that where possible the data fields within the ECR would be aligned with the SWRR. Therefore, the ECR has adopted the fields and definitions from within the SWRR and effectively the main purpose of this CP is to request additional items above what is already provided by DNOs within the SWRR.
- 4.46 Taking into consideration the above advice from the Secretariat, the statement within the legal advice sought from the RecorDER project and the statement by Ofgem, the Working Group are comfortable that the proposal can be legally implemented upon approval by Ofgem, based on the evidence provided that publishing this data is to better fulfil the obligation to develop and maintain an efficient, co-ordinated and economical system of electricity distribution.

Associated costs

- 4.47 Within the consultation DNOs expressed a desire to demonstrate the associated costs that they believe would occur based on this Change Proposal being approved as there are some data fields proposed in this Change Proposal which DNOs do not currently hold.
- 4.48 A Request for Information (RFI) was issued to DNOs (see Attachment 5). DNOs subsequently provided a total DNO industry cost and further information regarding these costs can be found in the below table:

Total DNO Industry Cost (£)	£1,900,000.00
Cost include:	<ul style="list-style-type: none"> • Labour Cost (contacting Customers) • IT System Development & Deployment • Creation of Internal Policy • •Changes to Codes and Engineering Recommendation (ER G99) • Review of ESO Data Records • Contingency

Contributing DNOs:	<ul style="list-style-type: none"> • Western Power Distribution • UK Power Network • Electricity North West • Northern Power Grid • Scottish and Sothern Electricity Networks • Scottish Power Energy Networks
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4.49 It is acknowledged that if this CP is approved, the additional items required, above what is currently provided within the SWRR, will accrue costs upon DNOs and IDNOs. Whether these costs can be captured under a specific cost recovery mechanism, would need to be determined outside of the scope of this CP.

Benefits

4.50 As stated above, markets rely on information to economically and efficiently plan and operate their businesses, e.g. for the ESO to forecast and balance, to ensure that each DNO and IDNO knows what is on their networks, to facilitate effective competition (across the various energy markets), to inform investors and asset operators, to ensure that the industry as a whole will meet the needs of customers for secure supplies at lowest cost. The Government's Data Task Force (DTF) is looking at how the UK as a whole can make better use of data, and this proposal is aiming to gather and present data in a manner very much in line with the Ofgem/ BEIS Energy Data Task Force's (EDTF's) goals.

4.51 In the proposer's view, since this proposal was raised, the covid-19 crisis has highlighted wider benefits of this CP. As the Government strives to consider policies around energy security these registers would allow them to track changes in connection timescales, etc. They could identify the sites due to be delivering for the Capacity Market in October 2020 and see how their connection dates were slipping and consider alternative policies if required. Where there is a need to use key workers to maintain system security, the Government could also prioritise which sites it asked the DNOs to focus on, for example finishing connection work on larger sites if it was felt necessary for system security.

4.52 The inclusion of DER in the register would also be particularly helpful at this time. If policy makers were aware that the largest DER sites were, for example, universities, they will know those sites are now no longer active as the universities are shut. This information could then inform the ESO about where there is a need for them to procure extra reserve, for example, from generator sites to make up the missing response. While these are extraordinary circumstances, they have served to highlight the need for good baseline data when trying to manage a market efficiently and effectively.

- 4.53 Since this CP was raised, Ofgem's charging reviews have progressed and it has become clear that the implementation of the TCR in particular is being hindered by the lack of robust data. The ESO has now withdrawn the CMP332 change as the lack of data from the DNOs has meant it is unable to robustly model the changes proposed by Ofgem. The ESO's inability to model the charging changes means that it cannot inform Suppliers or customers of the potential impact on them.
- 4.54 Also, since this CP was raised, both Ofgem and the E3C have reported on the power cuts experience on 9 August 2019. In its report³ Ofgem state:
- "We also found that the information DNOs collect and record on distributed generation is variable or severely limited. As a result, the exact causes and timeline of the incident cannot be fully established and this highlights the substantial improvements required in DNO capabilities if they are to transition towards playing a more active network management role as Distribution System Operators (DSOs)."
- 4.55 While a lot of Ofgem's report focussed on operational data, nonetheless the proposer felt that the DNOs would more easily be able to establish who and how to monitor DER if they have a full register of all sites impacting their network. Furthermore, in an event with Low Frequency Demand Disconnection (LFDD) the host DNO should know which sites are providing services to the ESO and should not be cut off.

Working Group Conclusions

- 4.56 As stated above, after Working Group review and consideration of the industry consultation, the first version of the ECR has been agreed as per the analysis detailed above. The DCP 350 legal text which sets out that each DNO and IDNO will build and maintain an ECR covering their licence area(s) has also been agreed. The legal text also details the governance arrangements needed to ensure the ECR is populated in a consistent manner and a mechanism to allow for future amendments to the structure of the ECR.

5 Relevant Objectives

Assessment Against the DCUSA Objectives

- 5.1 For a DCUSA Change Proposal to be approved it must be demonstrated that it better meets the DCUSA Objectives. There are five General DCUSA Objectives and six Charging Objectives. This change proposal impacts the general objectives.
- 5.2 The Proposer considers that the following DCUSA Objectives are better facilitated by DCP 350.

³ https://www.ofgem.gov.uk/system/files/docs/2020/01/9_august_2019_power_outage_report.pdf

	Impact of the Change Proposal on the Relevant Objectives:	Identified impact
<input checked="" type="checkbox"/>	1. The development, maintenance and operation by the DNO Parties and IDNO Parties of efficient, co-ordinated, and economical Distribution Networks	Positive
<input checked="" type="checkbox"/>	2. The facilitation of effective competition in the generation and supply of electricity and (so far as is consistent therewith) the promotion of such competition in the sale, distribution and purchase of electricity	Positive
<input checked="" type="checkbox"/>	3. The efficient discharge by the DNO Parties and IDNO Parties of obligations imposed upon them in their Distribution Licences	Positive
<input checked="" type="checkbox"/>	4. The promotion of efficiency in the implementation and administration of the DCUSA	None
<input checked="" type="checkbox"/>	5. Compliance with the Regulation on Cross-Border Exchange in Electricity and any relevant legally binding decisions of the European Commission and/or the Agency for the Co-operation of Energy Regulators.	None

- 5.3 The provision of robust, transparent data on the number, size, types and location of embedded market participants will help in the development and operation of a more competitive and economically efficient market. This will help policy makers design more effective policies and drive market developments to deliver secure, economic supplies for customers as well as meeting wider Government targets. It will help inform forecasting and future planning of system developments by the ESO, DNOs and IDNOs and inform forecasting of Suppliers and contracting and operations by other participants. It will also help investors to reach decisions on location, technology choices, etc., helping to inform market entry and exit in a more efficient manner.
- 5.4 By improving transparency and market knowledge, the GB electricity market can operate more efficiently which will ultimately benefit customers. The modification therefore better fulfils objectives 1, 2 and 3.

6 Impacts & Other Considerations

Does this Change Proposal impact a Significant Code Review (SCR) or other significant industry change projects, if so, how?

TCR SCR Interaction

- 6.1 Ofgem has recently concluded its Targeted Charging Review (TCR) and is progressing its Significant Code Review (SCR) around access to and charging for networks. One of the issues Ofgem has faced has been the limited accessible and transparent data on the number and types of assets connected across the DNO networks, forcing it to delay the implementation of CUSC modification

CMP332. Creating the register may enhance Ofgem's access to data and in future inform any further enhancements to the new regime.

Environmental Impacts

- 6.2 In accordance with DCUSA Clause 11.14.6, the Working Group assessed whether there would be a material impact on greenhouse gas emissions if DCPs 350 were implemented. The Working Group did not identify any material impact on greenhouse gas emissions from the implementation of this CP.

Engagement with the Authority

- 6.3 Ofgem has been fully engaged throughout the development of the CPs as an observer of the Working Group.

7 Implementation

- 7.1 It is proposed that this CP should be implemented 10 Working Days after Authority approval.

8 Legal Text

- 8.1 The legal text for DCP 350 is provided as Attachment 1.
- 8.2 The legal text sets out that each DNO and IDNO will build and maintain an ECR covering their licence area(s) alongside the governance arrangements needed to ensure the ECR is populated in a consistent manner and a mechanism to allow for future amendments to the structure of the ECR.
- 8.3 The detail around the specific items to be contained in the ECR and the definitions of such items will be referenced within the ECR itself and not in the DCUSA, thereby enhancing the ability to modify the ECR without the need to raise a CP to do so.

9 Code Specific Matters

Modelling Specification Documents

- 9.1 Not applicable.

Reference Documents

- 9.2 Not applicable.

10 Recommendations

Panel's Recommendation

- 10.1 The Panel approved this Change Report on 15 April 2020. The Panel considered that the Working Group had carried out the level of analysis required to enable Parties to understand the impact of the proposed amendment and to vote on DCP 350.
- 10.2 The Panel have recommended that this report is issued for Voting and DCUSA Parties should consider whether they wish to submit views regarding this Change Proposal.

Attachments

- Attachment 1 - DCP 350 Legal Text
- Attachment 2 - DCP 350 Voting Form
- Attachment 3 - DCP 350 Consultation and Collated Responses
- Attachment 4 - Embedded Capacity Register
- Attachment 5 - DNO Request for Information Responses
- Attachment 6 - DCP 350 Change Proposal
- Attachment 7 - RecorDER Legal and Regulatory Report on the Sharing and Publishing of Data