DCC Business & Development Plan

2022/23

132 gin

Cozkg

Dual Fuel

47 kg





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1. Chief Executive's Foreword

At the DCC our mission is to make Britain more connected, so we can all lead smarter, greener lives. Every year, as part of our licence conditions, we produce a five-year Business and Development Plan that sets out our priorities.



This plan is for our customers and stakeholders across the energy industry and sets out how we are continuing to support the smart meter roll-out and evolving the network to meet their needs. The core of what we do is to design, build, secure and run a reliable smart metering service that will operate a national network of 55 million meters in 33 million homes.

The DCC forms the digital spine of the energy system and there are now more than 21 million meters connected to our network. Within the next 12 months, more than half of the homes in Britain will have an interoperable smart meter that can work between energy suppliers and have the capability to provide halfhourly meter reads. To achieve this, we are focused on enabling our customers' SMETS2 roll-out, the migration of SMETS1 meters, as well as empowering energy consumers through the delivery and operation of faster energy supplier switching (which has recently gone live).

The DCC plays a pivotal role supporting the energy transition and UK's journey to Net Zero. Our network

is already providing detailed and critical data needed to understand future energy demand. As we move to more sustainable generation sources, the proportion of weather-dependent generation powering our homes and industries will increase significantly. The UK's new smart electricity grid will address these challenges by balancing supply patterns with new demand that will emerge from the widespread adoption of technologies such as EVs and heat pumps. DCC is focused on supporting Distribution Network Operator (DNOs), with their new challenges, as they build the Distribution System required to support the future Smart Grid.

Network resilience and continuity of service are critical to our customers. Therefore, over the next few years, our Network Evolution Programme will enhance our platforms to accommodate growing demand, enable us to continue to reduce underlying costs and improve software change cycle time to market.

At the time of writing this document the DCC, working with BEIS, are soon to announce the detail on how we

will develop our next generation 4G communications hub which will incorporate the enhancements requested by our customers. We need to do this because our network already carries over a billion messages a month. In order to ensure that it continues to meet our customers' emerging needs we are working on plans to enhance our core messaging platform, the DSP, can deliver faster inlife changes with reduced planned network outages and greater availability. These changes will protect the future resilience of our network, making sure that it remains fit for purpose through to the 2030s and beyond.

We continue to work hand-in-glove with our regulator and across Government to ensure that our vision is fully aligned with the developing pathways of the ongoing energy transition. Our network's nationwide reach and connectivity, built around best in class security, constitute a unique asset that can be re-used by our customers. This, in turn, will allow Government to implement policy interventions to deliver the Net Zero energy transition and deliver greater value to consumers.

We want to ensure we deliver a quality service for all our customers and meeting their requirements is central to everything we do. This year will see the full introduction of the revised Operational Performance Regime (OPR), the process by which the DCC's performance and financial incentives are assessed by Ofgem. Customer engagement is, rightly, a core component of this framework; and we continually strive to find the most effective ways of communicating with our customers and involving them in our decision-making.

Over the last few years, we have been investing in, and improving on, our engagement with customers. In particular we are working on improving the level of transparency in relation to business cases and associated

We are driven by our purpose: making Britain more connected so we can all lead smarter, greener lives.

DCC Public

costs so customers will be seeing much more direct engagement in this area. We are also committed to continuous improvement and have invested in training our staff to use many new tools and techniques. Within this Business and Development Plan, we outline how we will not only deliver mandated new requirements but also simplify our processes.

Continuity of service is a key licence obligation for the DCC, and we are constantly reviewing both our own capabilities and performance as well as those of our service providers to ensure that our customers and the end consumers have the confidence to rely on our network. It is with this in mind that the SEC panel has suggested the creation of a transition steering group to examine how the industry, as a whole, can better manage the migration to new services, such as 4G. We welcome this and are working closely with SECAS and our customers to make this a reality.

The recent record-breaking temperatures serve as a stark reminder both that our climate is changing and of the urgency to deliver our Net Zero commitments, through the transition to a digital, flexible energy system, that is driven by smart meter data and new technological capabilities. This is core to enabling the decarbonisation of energy and allowing us all to lead smarter, greener lives.

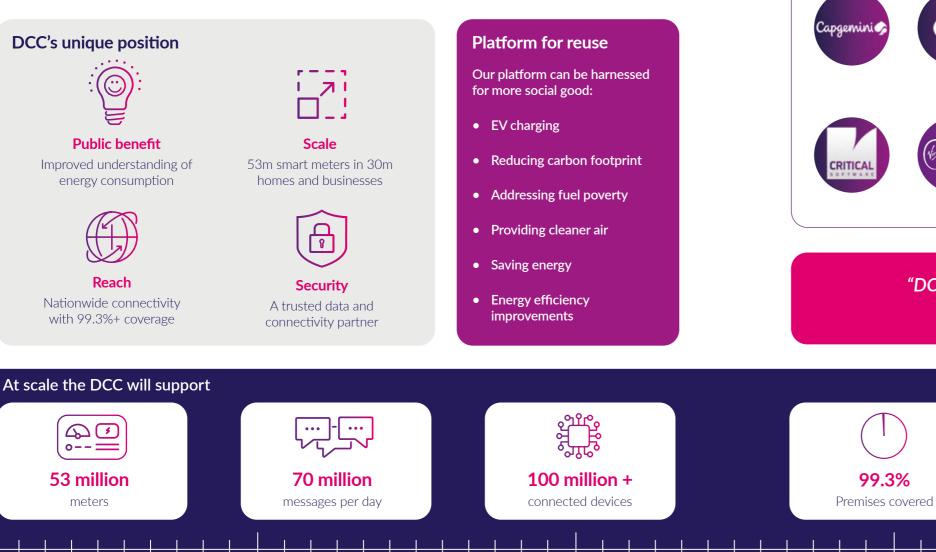
Angus Flett Chief Executive Officer

2. Who are we and what we do

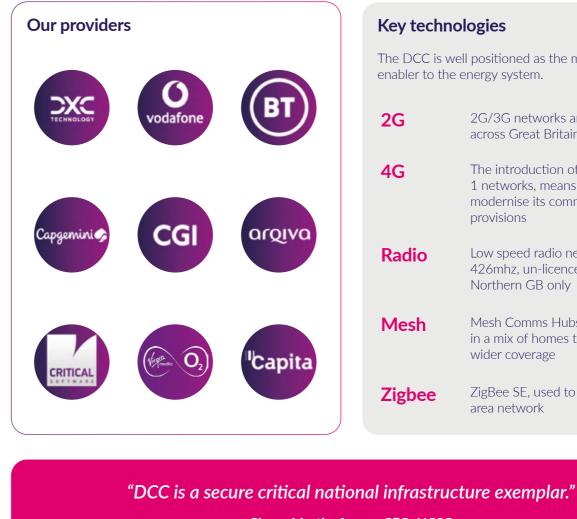
The DCC is a private company, a subsidiary of Capita plc, licensed by the Government and regulated by the energy regulator Ofgem to connect smart meters in homes and small businesses across Great Britain to a single secure, digital network. We support the roll-out of second-generation (SMETS2) smart meters, as well as the migration of existing first-generation (SMETS1) meters onto our network.

What is the DCC?

The Data Communications Company (DCC) is Britain's digital energy spine, supporting the transformation of the energy system



Energy consumers benefit from having their meter connected to the DCC network as it allows them to switch suppliers without the risk of losing smart capability, enables time-of-use tariffs, and provides real-time data on network performance for DNOs. This empowers consumers to take control of their energy usage, which in turn will help Britain to achieve Net Zero by 2050. In addition, other service providers can use the network as the foundation for new and innovative services, such as dynamic time-of-use tariffs and the active management of domestic demand.



99.3%

Operating the DCC network generates a range of system data such as descriptions and timings of transactions. We believe that universal sharing of this data, in line with the principles laid out in the Government's National Data Strategy, can help the industry to develop new business models and propositions designed to tackle the social challenges of today, including the drive to reach Net Zero.

Key technologies The DCC is well positioned as the major technology enabler to the energy system. 2G/3G networks are in use **2G** across Great Britain **4G** The introduction of 4G LTE cat 1 networks, means DCC will modernise its communications provisions Low speed radio network, Radio 426mhz, un-licenced spectrum Northern GB only Mesh Comms Hubs are installed Mesh in a mix of homes to provide wider coverage ZigBee SE, used to provide home Zigbee area network

Ciaran Martin, former CEO, NCSC

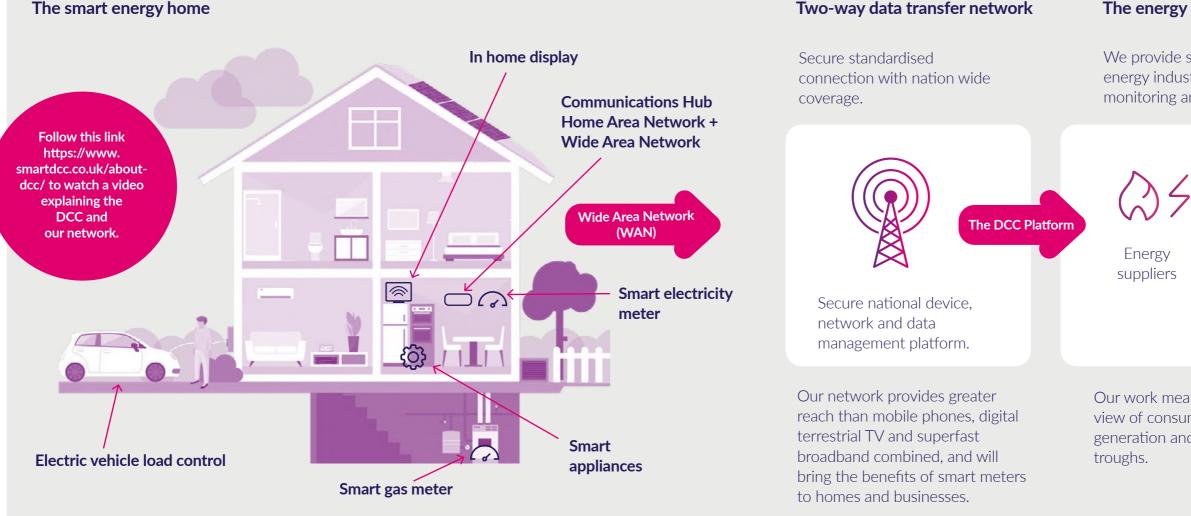


How the DCC network connects

We design, procure, develop, secure and operate Great Britain's communications network to support smart meters. We connect homes and businesses to a single, secure network of digital smart meters, enabling Great Britain to make the best use of renewable energy.

Empowering consumers across the energy system

We are working with Ofgem to deliver and operate a faster and more reliable Central Switching Service, which will enable energy consumers to switch energy supplier on the next working day. In addition, we are playing a major role in the delivery of domestic half-hourly settlement, which will enable innovative time-of-use tariffs.





The energy industry

We provide secure connections to the energy industry (including provisioning, monitoring and billing).



Distribution Network Operators (DNOs) and Gas Transporters



Authorised third parities (e.g. Managed Service Providers)

Our work means the energy industry has a real-time view of consumption, allowing it to optimise energy generation and storage, and smooth the peaks and

3. Future Market Trends

The UK Government has set a target of achieving Net Zero carbon emissions by 2050. This requires the energy system to decarbonise, digitalise and decentralise, a transition which is already evident in the widespread investment in renewable generation and growing number of electric vehicles. Managing an increasingly complex energy system will be possible only through widespread automation and use of data. Energy assets will have to be capable of sharing information and be capable of being remotely controlled. We are working collaboratively with the Government, Ofgem and our customers to understand how the DCC can support in addressing the challenges that arise from the key market trends highlighted in this section.

"a key enabler for demand side flexibility will be smart meters, which enable innovative products and services such as smart time-of-use tariffs. These tariffs reward consumers financially for using energy outside peak times, when demand is low or when there is excess generation available."

> UK Government's Net-Zero Strategy October 2021



Key Trends

Decarbonisation and Distribution System Operator (DSO) Transition

In recent years, the Government has focused on decarbonising energy and, more latterly, transport. It has developed overarching, as well as sector-specific, strategies to set a trajectory to a decarbonised economy by 2050. Whilst the precise path to Net Zero is yet to be decided, it is clear that we will need to use a wide variety of technologies to decarbonise energy and use it more efficiently.

Much of the decarbonisation of energy to date has come through changes in generation as fossil-fuels have been replaced by renewable sources. As more intermittent and weather dependent generation is connected to the distribution networks, the system will become more complex to operate. Balancing supply and demand at a local level will become increasingly necessary, but also more challenging. To further complicate matters, it is estimated that electricity demand in Britain could more than triple by 2050, as sectors such as transport and heating are electrified.

Local balancing will require greater use of flexibility from distributed energy resources such as small-scale renewable generation, Demand-Side Response (DSR), and electricity storage. Assets such as heat pumps and electric vehicles (EVs) can be used for DSR, with EVs capable of acting as local storage and export. However, while such assets can contribute to balancing, their use will also result in increased overall demand and higher peaks, which might prove a threat to grid stability. This will require the active and dynamic management of power flows on the network, alongside further investment in network assets. These changes taken together are often referred to as the 'Smart Grid'.

Distribution Network Operators (DNOs) are transitioning to become Distribution System Operators (DSOs) to deliver this smart, flexible system that connects large-scale energy generation with local Distributed Energy Resources (DER), such as solar panels, battery systems and electric vehicles installed in homes, businesses, and communities right across Britain.

DSO management of the Smart Grid means that rather than adding additional overlapping low voltage network capabilities, costing tens of billions of pounds, DSOs will digitally manage, and balance, new connections and increased energy consumption using new sources of flexible generation and storage, informed by real-time data. This new balancing capability is the main responsibility of the new Distribution System Operators (DSOs), who will work with Demand Side Response providers and the energy flexibility providers to maintain the UK's excellent supply resilience.

A smart, flexible energy system reduces consumer energy bills by reducing the amount of generation and network assets that need to be built to meet peak demand. It also gives consumers greater control over their energy bills, through access to smart technologies and services. It also facilitates the integration of local solutions for low carbon power, heat and transport.

The DNOs will need to develop new capabilities as their role evolves to include that of DSOs. We are proactively working with DNOs to support their transition, with activities organised under the "DNO Transformation Programme" (see Section 5 Priorities & Plans).

A smart. flexible energy system reduces consumer energy bills by reducing the amount of generation and network assets that need to be built to meet peak demand

What could this mean for DCC, our customers and energy consumers? DCC could help to facilitate decarbonisation and the DNO-DSO transition in the following ways:

Using our secure network to enable load control, the balancing of distributed energy, and flexible assets such as solar, EVs, heat pumps and storage



Transmitting half-hourly data on generation, demand and low voltage network measurements to DNOs and system operators to help them manage network constraints more effectively



Providing a secure, central register of assets connected to the distribution networks, such as decentralised generation or load

The digitalisation of our future energy system will require the capture, control, management and sharing of significantly more, real time data



Supporting the wider use of secondary metering to enable the electrification of transport, heat, and other smart appliances

Capturing data on actions of market participants for assurance purposes, for example, measuring demand reduction being delivered by aggregators in response to system operator requests



Smart meters provide the capability for smart time-of-use tariffs that enable and incentivise the more efficient utilisation of energy with the opportunity to reduce consumer bills



Digitalisation and Data

Digitalisation and data have transformed various sectors including banking and healthcare. Access to data is essential to inform decision making and to direct activity. It can aid us in modelling potential outcomes and to automate certain actions. In the energy sector universal, free data access and sharing has the potential to accelerate the nation's efforts to reach Net Zero, as described in the Government's National Data Strategy.

Delivering improved outcomes through the better use of data is a cornerstone of Government policy. There have been several significant policy interventions in this area – such as the Strategy and Action Plan for Digitalising our Energy System for Net Zero, published in 2021 – which provide a vision, approach and suite of actions for digitalising the energy system. Taking forward the actions from the National Data Strategy, the Department for Digital, Culture, Media & Sport (DCMS) is working on reforms to the UK's data protection regime.

The recent Energy Digitalisation Taskforce (EDTF) report, commissioned by the Department for Business, Energy & Industrial Strategy (BEIS), made recommendations to unlock the power of data. Better use of energy data stands to benefit all players in the system including:



Network operators (network planning and system operation)



Energy suppliers (in better modelling of demand and management of supply)



Consumers (dynamic tariffs and differentiated products to drive efficiency and reduced consumption)



Regulators and policy makers (in decision making)

What could this mean for DCC, our customers and energy consumers?

The EDTF has advocated the use of smart meter data for the public good. By providing access to smart meter system data, DCC could support research, inform policy and enable problem solving. This data could help energy suppliers and local authorities more accurately target financial support and energy efficiency measures to those who are in most need.

For example, we are currently participating in the Modernising Energy Data Applications (MEDApps) competition to assess how smart meter system data, when combined with other data sets, can help to identify geographic areas where there is a higher probability of consumers being in or at a risk of fuel poverty.

Furthermore, appropriate sharing of smart metering data in relation to outage alerts, caused by a storm or when a pre-payment consumer has run out of credit, could enable immediate support from charities, local authorities, and support services, for example.

The use of smart metering data could also help care for the elderly or vulnerable in their homes, through providing inactivity alerts to care providers and emergency services, for example.

Smart metering data could also provide alerts to Local Education Authorities on anomalous usage patterns during school holiday shut down periods.

> The Cost-of-Living crisis has placed millions of households at risk of falling into fuel poverty and sharpened the focus on protecting the vulnerable

Rising Energy Costs

On 1 April 2022, we saw an unprecedented rise in the energy price cap, leaving a typical household facing an average increase of 54% in energy bills, or an extra £693 a year. Ofgem have indicated that the energy price cap will rise again in October 2022. The price cap rise has been caused by an increase in the wholesale cost of energy. For households struggling to cope financially, this represents a very significant challenge, compounded by general price inflation and tax rises. This chain of events has placed millions of households at risk of falling into fuel poverty and sharpened the focus on protecting the vulnerable.

Inflationary pressures and the rise in wholesale energy prices in 2021 and 2022 has resulted in an unprecedented number of energy supplier failures.

There are several potential DCC opportunities which link to these key trends and are in various stages of discussion with the Government and Ofgem. For more information, see table in <u>Section 5: Priorities</u> and Plans – Mandated Growth.

What could this mean for DCC, our customers and energy consumers?

In these circumstances, it is imperative that DCC has a strong grip on cost efficiency so that we do not add unnecessarily to the pressure on household energy bills. We will continue to enforce Value for Money principles in all of our investment decisions whilst also building a culture of continuous improvement to find further cost efficiencies in the activities we undertake. We will also work with the Government and the industry to explore how smart meter data can be used to help suppliers identify their customers that are vulnerable and in fuel poverty in the most efficient and effective way.

Delivery of Market-Wide Half-Hourly Settlement means that energy suppliers will be exposed to the half-hourly costs of consumer consumption, rather than estimated costs as at present. This will encourage the introduction of time-of-use tariffs, which in turn will incentivise customers to shift their consumption to times when energy is plentiful and cheap. This presents an opportunity to reduce consumer bills. For more information see <u>Section 5: Priorities and Plans –</u> Market-Wide Half-Hourly Settlement.

DCC has had a role in supporting Ofgem's Supplier of Last Resort (SoLR) process, which switches consumers from a failed energy supplier to a supplier selected by Ofgem. As the retail market stabilises, we expect to see an increase in consumer switching, which will be facilitated through the new Central Switching Service. The CSS will increase competition and provide a foundation for innovation leading to improved consumer value, experience and engagement with the market. For more information, see Section 5: Priorities and Plans – Faster More Reliable Switching.

4. Strategic Planning and Core Capabilities

As the secure digital spine for the energy system in Great Britain, the DCC has a central role to play in the transformation of the energy market through decarbonisation, decentralisation and digitalisation.



The Strategic Priorities were developed in consultation with our customers and reflect their feedback that we should focus on the delivery of our core mandated business and the maturing and improvement of these services once in operation.

The programmes and initiatives that will deliver each Strategic Priority are described in Section 5: Priorities and Plans.

Strategic Planning and Prioritisation Process

We have implemented the following hierarchy and strategic planning process to ensure there is alignment between our long-term strategy (Vision & Mission); the Strategic Priorities contained within the five-year Business and Development Plan (BDP); and our detailed annual business plans and budgets.





The DCC's Vision & Mission sets the context for our planning processes.

These are carried forward in this document (BDP) which sets out our priorities and plans over the next five years. This is reviewed and updated on an annual basis, as required by our licence.

We forecast three-year financials on a quarterly rolling basis to give customers certainty over DCC charges.

Our detailed business planning process sets our specific deliverables and resource requirements over the next year.

We publish a quarterly charging statement, containing a three-year financial forecast, which is presented to customers at the Quarterly Finance Forum (QFF).

DCC's Technology Strategy

Enabling an enduring solution for smart metering

The DCC smart metering platform was based initially on services provided by three "Fundamental Service Providers" (FSPs). Over the last four years, with the introduction of new mandated activity, the number of FSPs has increased to more than 20.

The DCC technology function ensures that we:

1) Secure the operation of our services through design and testing excellence. During 2022/23 we will commence the replacement of many of our core systems as they approach technology obsolescence and require system enhancements. Such upgrades and replacements will also maintain and improve our security capability.

2) Scale the operation of our service. By July 2022, more than 21 million meters had been connected to our network. We are currently seeing around 17,000 meter installations a day and we carry almost one billion messages each month. As we move towards 2025, we will ensure that our systems scale up and operate to meet our customers' requirements.

3) Determine the future architecture required to support the DCC's business model and strategy by horizon scanning and engaging in discussions with stakeholders to create a technology roadmap. This will involve determining the key decisions that the roadmap needs to inform - and, therefore, the level of information that it should capture as well as collaboration with customers and stakeholders to ensure that it meets their requirements.

Through our Network Evolution Programme we are delivering the enduring technology platform for the Smart Metering Implementation Programme, cementing our role as part of the secure digital spine of the GB energy system. For more information see Section 5: Priorities and Plans -Network Evolution Programme.

Usage of the DCC platform will continue to grow as our customers' needs evolve. Modelling future demands on the network is critical to ensuring that the required capacity is available when needed and at the optimum cost. To model the cost and technical options for investing in the network we are required to forecast demand and capacity over a five to 15-year strategic horizon¹. This involves dialogue with our customers about their future needs and consideration of how market trends may affect network usage. Through forecasting demand and its profile - i.e. at what time of the day messages are sent - we can invest in the required network capacity more efficiently and reduce the costs for customers.

¹ All network investment decisions to increase the size of the network will be formalised through SEC governance. SEC Modification (MP116) establishes an enhanced forecasting process and variance reporting with customer support, which will help enable DCC demand modelling.





DCC Capabilities

Our technical and organisational capabilities support the delivery of our Strategic Priorities. Since DCC was established, we have built an organisation capable of delivering complex, technology-enabled change programmes.

Our technical and operational assets in the form of the DCC network and Central Switching Service (CSS), combined with the experience and knowledge of our people, provide a powerful vehicle for the Government and Ofgem to continue driving innovation and reform in the energy sector.

The smart metering communications network provides the following core capabilities:



Reach

The smart metering network covers 99.3% of Great Britain. We will be connected to 53 million meters in 33 million homes and premises



Connectivity

The DCC network can send and receive instructions and data to and from 'smart devices' outside the internet, initiating tasks or processes



Security

The smart metering architecture has been developed with the NCSC to ensure that robust security controls are included from the initial stages of design

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The data flowing across the network provides information on the behaviour of energy users in Great Britain. This data could be used to improve management of the energy system and help in the development of new products and services for consumers



Load control

This functionality is already available on the DCC platform and could be used to balance the local grid and enable demand-side response market participants



Design, programme delivery, test management and assurance We have designed and built one of

Our core capabilities as a delivery

organisation include:

We have designed and built one of the most complex pieces of digital infrastructure in the world



Device management We have had to develop highly technical processes and systems to support thousands of device model combinations in use across the industry

Contract management

We have significant expertise in designing, procuring, and managing complex, high-value contracts related to SMETS1 meters and switching



Technical and service operations

We proactively monitor our network on a constant basis using best practice to maintain the availability of our systems, while also providing operational insights to our customers, the Government and the regulator



Security operations We have built a 24/7 Secu

We have built a 24/7 Security Operations Centre, which actively monitors security threats and operates to NCSC standards

Building on DCC's Capabilities

The DCC has a licence objective to facilitate competition in the sector and seek opportunities for re-use of the network, with the aim of helping to reduce charges to our customers for mandated services.

The strategy set by the DCC Board is that our primary role should be the delivery and operation of our core regulated services, However, given the licence objectives to facilitate competition and re-use, as well as the ongoing transition in the energy system, the Board felt it was also appropriate to explore the following areas of opportunity:

Government mandated growth



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To seek and secure mandates for the development of new services as a partner for the Government and Ofgem in delivering their policy objectives for the energy sector and in supporting the energy transition

Customer-led system enhancements

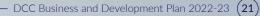
To deliver new products and services that are demanded and valued by our customers. This should include enhancing existing systems and capabilities, but also providing new functionality or complementary tools to enable customers to deliver their smart metering obligations more cost effectively or to develop new and innovative products and propositions

Improved Self-Service for DCC customers

To develop an enhanced 'self-service' offering which enables customers to make self-serve changes to the DCC platform quickly and at low cost. This will provide a mechanism to help deliver bespoke capability or enhancements for individual customers on a bilateral and commercial basis

For more information on the opportunities currently being discussed with the Government, Ofgem and our customers see <u>Section 5 Priorities and Plans – Strategic</u> Priority 4: Re-Use.

Part of the Government's original vision for the DCC was that the capabilities of the smart metering network might be re-used in markets other than energy. Following feedback from BEIS, Ofgem and customers, our activity in this area will be very limited during this licence period. We do not anticipate reconsidering this until the smart metering roll-out is concluded.





5. Priorities and Plans

This section sets out how we will deliver each of our five Strategic Priorities, describing the key programmes and initiatives within each one. The table opposite sets out these programmes, together with their anticipated timelines.





Mandated Growth

Programmes and Initiatives

Smart Meter roll-out

Continuous In-life Operations Improvements**

Dual-Band Communication Hub (DBCH)

SMETS1 Enrolment and Adoption

DNO Transformation Technical Refresh

Enduring Change of Supplier (ECoS)

Priority

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Customer-led System Enhancements

Improved Self-Service for DCC Customers

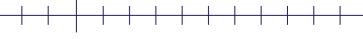
Culture and Capability



Development and Implementation Kev

Operation an

	2022/23	2023/24	2024/25*	2025/26	2026/27
e					
nd Continuou	s Improveme	ent			
			*End of DCC.	licence 30 Ser	otember 2025
**Includes seve	eral improveme	ent activities c	overed in the	smart meter ro	oll-out section
	1.				



DCC Public

Customer Feedback

We sought customer and stakeholder feedback on some of our priorities and plans at customer workshops in February 2022 and via a consultation on the draft Business and Development Plan document in May 2022. We have shared a document with customers that summarises the feedback received at the workshops and the actions we have taken in response. To avoid duplication, we have also used the feedback from other engagement activities run directly by our programmes and initiatives to inform this section.

DCC Change Delivery Methodology and Business Cases

The DCC Change Delivery Methodology (CDM) provides DCC with a single defined method of delivering endto-end change across our wide and varied portfolio of projects and programmes. It sets out a repeatable staged approach, standards, and governance required to deliver change for our customers, and internal stakeholders. Each stage of the project is progressed through the gating model once the agreed set of artefacts have been produced and internally approved. The Operations and Delivery ExCo Group (ODEG) currently approve progress through the stage gates.

A key part of progression through CDM is approval of the programme or project's business case and the cost benefit analysis contained within it. In Stage 1 of CDM, the programme/project develops an Outline Business Case, containing an initial cost benefit analysis. Leading up to the production of the Outline Business Case, The DCC is committed to engaging with customers on the initial problem statement, high level design and business requirements. Where appropriate this provides an input to the Outline Business Case.

In stage 2, the cost benefit analysis is refined and included within a final business case. At this point, DCC engagement then moves to focus on options, transition dependencies, detailed requirements along with a plan for resources of programme objectives. These engagement areas will then provides an input to the Full Business Case. Engagement on the cost benefit analysis is included as part of DCC customer engagement on programme options. When approved through the CDM governance, the Full Business Case is baselined.

Throughout the rest of the CDM stages the business case and cost benefit analysis are under change control, therefore any changes to the project will require a formal change process. Through this process, the benefits and costs will be revisited to ensure the benefits still outweigh the costs.

DCC Licence Renewal

DCC operates under the Smart Meter Communications Licence which was granted by the Department of Energy and Climate Change, now BEIS, for a period of 12 years. The licence came into effect on 23rd September 2013 and so is due to expire in 2025, although Ofgem does have the option of extending the current licence by up to 6 years beyond that date.

This is the first Business and Development Plan where the five-year timescale extends beyond the end of the licence term. In light of this, this section will describe briefly the process Ofgem has initiated to define the regulatory arrangements for a new licence period from 2025-2040. In addition, it will describe how we intend to treat events or projects which could continue into the next licence period.

Defining a new licence

In February 2021, Ofgem issued a public call for evidence on the effectiveness of the current regulatory arrangements for DCC with the aim of scoping a review process which would follow. This extended to considering the vision and purpose for DCC in a new licence period as well as the ownership model. At the time of writing, the indications are that a consultation identifying a way forward will be published in Autumn 2022. We will continue to monitor the process and contribute where our experience can add value.

Impact of end of licence

We have a responsibility to deliver our programmes and operational services through to the end of the licence but also then to ensure continuity into a new licence period in whatever form that takes. So, this Business and Development Plan reflects that approach and assumes that at an operational level, activities such as contract renewals and programme delivery will continue into a new licence period.

> A key part of a programme's progression through DCC's Change Delivery Methodology is approval of the business case and continued monitoring of the cost benefit analysis

Strategic Priority 1:



Smart meter roll-out

Support the successful smart meter roll-out across Great Britain by December 2025.

Our primary responsibility remains the continued delivery of a stable, reliable, and secure smart metering platform with a coverage level and capacity that enables our customers to meet and exceed their roll-out targets. The Operational Performance Regime, set by Ofgem, incentivises the DCC to continuously improve on our operational performance metrics, including our annual Price Control to ensure that we provide value for money.

In recent years, we have implemented several programmes which have added to the functionality of the smart metering network, such as Dual-Band Communications Hubs, and further enhancement programmes will continue in the short to medium term. This has required us to manage the complexity of operating the core service while integrating multiple new system releases each of which impacts on day-to-day operations. Over and above this additional functionality, we recognise that improvements to the service can be made, and we will continue to work closely with our customers to identify and implement these.

DCC Operations will continue to scale and evolve to handle the increasing volume of SMETS2 installations, the migration of dormant and active SMETS1 meters, which requires the management of over 2,000 device model combinations, and the introduction of the Central Switching Service. To ensure that we are ready to address these challenges effectively, we have taken several steps across all core elements of our live services.



Continuous In-life Operations Improvements

Customer Relationship Management

Through regular service reviews with our customers, we provide data and insights to help them improve their own performance. We will build on these reviews by looking for further ways in which we can support our customers to take greater control of their estate and to optimise their processes. Initiatives such as Standardised Customer Analytics Reporting demonstrate how we are trying to achieve this (see section Standardised Customer Analytics Reporting).

During 2022/23, we are aiming to gain improved insight into the pipeline of change that will be requested by customers, and the demand generated by future initiatives and improvements to our service. We will hold this strategic dialogue with customers through service reviews and workshops. In response to changing customer demands and expectations about how they interact with the DCC, we will be exploring wider use of automation and customer self-service where possible.

> DCC Operations will continue to scale and evolve to handle the increasing volume of SMETS2 installations and the management of over 2,000 SMETS1 device model combinations

> > DCC Public

Products and Logistics

Our Products and Logistics team works closely with energy suppliers and the supply chain to ensure that communications hub deliveries are maintained. In 2021 we delivered 99% of the total volume ordered despite unprecedented challenges from COVID-19 and global silicon chip shortages. DCC worked with our customers, Communications Service Providers (CSPs) and BEIS to adapt to the volatility in demand, keeping the supply chain moving and responsive. Global influences remain a factor in technology supply chains in all sectors and we continue to work with CSPs to improve supply chain resilience and our business continuity plans.

To meet the evolving needs of our customers, DCC plans to introduce new capabilities that will support enhanced return arrangements for communications hubs and optimise the ability to re-use devices including Bulk Returns, Firmware Reflash and Supplier of Last Resort. A Communications Hub Stock Redeployment capability will also enable the movement of stock between customers where required, following successful trials last year.

The SEC Communications Hub Ordering and Delivery Rules will evolve to support our customers better through improved flexibility to amend orders, enhanced understanding of customer demand and changes in supply chain lead times. The rules will support seamless and rapid transition from 2G and 3G communications hub variants to our next generation 4G communications hubs, ensuring that we can meet customer demand while optimising stock levels across the industry.

We will adopt best practice processes in delivering communications hub device model and firmware Over-The-Air (OTA) upgrades to help drive industry operating improvements in the delivery of new and upgraded meters, as well as other devices using a Home Area Network (HAN).

We will also develop new operational data analysis and reporting to identify the in-life performance of individual device model/firmware combinations and HAN configurations of all devices simultaneously connected to a communications hub. This will lead to improved network performance and service delivery, while helping to reduce costs for DCC and the industry.

Service Assurance

The priority of our Service Assurance team in 2022/23 is to support greater coordination across DCC Operations and to further develop a service-oriented approach using standards and policies.

We are progressing well with the introduction of ISO22301 (Business Resilience), along with core assurance policies that "bind together" the functions within DCC which contribute to the delivery of live services. During this transformation, we will focus on improving the quality and efficiency of our delivery and services, while mitigating operating risks.

In addition, a key focus for DCC Operations has been the introduction of the Central Switching Service (CSS), as DCC takes on the role of operator of the live service with associated regulatory obligations under the Retail Energy Code (REC) (for more detail see Faster More Reliable Switching section). We have applied Service Assurance team principles to support preparations for the Switching Programme Go-Live, the Service Transition, and early-life "Hypercare".

A key focus for DCC Operations has been the introduction of the Central Switching Service



Supplier Relationship Management

Our overarching objective is to deliver service stability, reduce failure and drive value and continuous improvement through the development of trust-based relationships with our commercial partners and suppliers. To achieve this we have and will continue to drive changes to how we work, both internally and externally. The key actions that will allow us to achieve these objectives are:

- Driving a step change from focusing on contractual Key Performance Indicator (KPI) delivery to focusing on customer outcomes
- In support of the above, development and delivery of reporting frameworks that allow DCC and supporting suppliers/partners to see and understand the role they play in delivering these customer outcomes:
 - Ensuring our IT Infrastructure Library (ITIL) frameworks are not only single supplier focused but also connected at a service level
- Owning and driving service-level performance review frameworks, which will complement the current individual contractual level reviews
- Improved engagement and communication with our suppliers, ensuring a 'one voice' approach
- Engaging earlier in the development of programmes to share experience-based solutions for shaping future contractual frameworks and ensure that lessons learned are embedded, including how to transition new services from programmes to in-life management
- Increased bench strength for the internal teams who lead these relationships, ensuring that we complement our current deep technical experience with a broader set of senior Supplier Relationship Management (SRM) capabilities

Our overarching objective is to deliver service stability, reduce failure and drive value, cost savings and continuous improvement through the development of trust-based relationships with our commercial partners and suppliers

Commercial Management

We recognise that we depend on our key suppliers to deliver mandated obligations in a way that is cost effective, resilient, and timely. We are therefore committed to developing our SRM capability with the aim of generating significant and sustainable value through aligning our suppliers with DCC's objectives.

This will require us to:

- Enhance our existing programme, commercial, and service-related performance management activities

 which are focused on ensuring delivery in line with contractual obligations – by adopting a more strategic approach to the management of our key suppliers across the full breadth of our relationships
- Become adept at driving continuous improvement beyond contracted levels of performance where it makes sense to do so - in line with DCC's twin goals of value for money and service excellence - underpinned by appropriate incentives
- Invest more time in building relationships with our key suppliers to position the DCC as a "customer of choice" and receive preferential treatment that brings tangible business value – for example, via early access to new products or services that will improve our operational capabilities and through influencing supplier roadmaps in a way that will underpin the evolution of our network
- Build our SRM capability, coupled with new ways of working, as part of a wider commercial transformation based on industry best practice, embedding SRM as a core, cross-functional, business discipline



Ensuring Reliability and Stability

We focus on continuous improvement with our suppliers and have been paying special attention to improving operational stability in the North region, working with our infrastructure partner, Arqiva, device vendors and our customers to resolve key performance issues.

As of May 2022, we are achieving 97.4% success rates for firmware downloads onto communications hubs, which represents a significant and sustained improvement on previous performance. We are now seeing comparable achievement of firmware downloads across the three CSP regions.

Last year the DCC initiated "Scaling and Optimisation", an activity with Arqiva, supported by BEIS, to review the current CSP North design against current and future requirements and identify solutions for evaluation and discussion with customers. The activity is split into two distinct phases of work.

Phase 1 of Scaling and Optimisation focuses on detailed scenario modelling of current and future demand, usage profiles and the identification and preliminary assessment of uplift solutions to bridge the gap between the current design and the end-state requirements. Modelling is at an advanced stage, with the output and associated conclusions to be shared with customers in July or August.

Using the analysis and conclusions from Phase 1, Phase 2, we will focus on working with Arqiva and customers to evaluate and progress technical and nontechnical solutions to ensure that requirements are met at scale. It is expected that the scope will include both the expansion of existing capabilities and the development and implementation of new capabilities to increase the throughput capacity and efficiency of the network.

It is anticipated that customers will be heavily involved in Phase 2 and, as appropriate, solutions will be progressed via the formal Smart Energy Code (SEC) governance processes.

Many of the learnings from the scaling and optimisation activity in the CSP North region are being applied to the Central and South region to assure the integrity of the network.

The DCC's technology function (CTO) is reviewing opportunities to improve traffic management and the treatment of messages across the network, taking into account changes in traffic usage patterns and increase in demand. We remain committed to maintaining a customercentric approach while finding the right balance in our technology strategy and delivering value for money. As of May 2022 we are achieving

97.4% success rates

for firmware downloads onto CSP North communications hubs

Demand and usage of the network is forecast to increase by 500% over the next four years, driven by the continued roll-out of smart metering, the introduction of Market-Wide Half-Hourly Settlement (MHHS) and emerging DNO needs. Recent analysis has shown that Great Britain Companion Specification (GBCS) payload is an increasingly important facet of the future DCC demand profile. The strategic technology interventions we are developing recognise the change in customer usage patterns and reflect the need to change. CTO interventions have focused on four key themes:

- The introduction of a scalable centralised data cache where data will be stored and aggregated for onward transmission to users on request, reducing reads and large payload demand across the network
- An enhanced traffic prioritisation solution, to provide certainty in the delivery of time-critical messages, configurable by the customer
- Improving the utilisation of available capacity across the network and optimising the scheduled read of data whilst maintaining Service Level Agreements (SLAs)
- Pursuing the development of compression techniques for GBCS payloads to reduce the load over the Wide Area Network (WAN) and release capacity for growth

CTO and DCC Operations will engage customers on technical and policy changes as these solutions develop through the SEC Panel, the Technical Architecture and Business Architecture Sub-Committee (TABASC) and existing bilateral governance arrangements.

Network Capacity Planning

Short to medium term

The DCC routinely performs capacity planning to ensure that we can meet our customers' business needs and to anticipate demand from new requirements. This enables us to align capacity with customer demand and optimise any expenditure required to increase capacity.

Every quarter our customers forecast the volumes of service request messages they expect to send and receive over the following eight months. We combine these with operational insights to create a long-term aggregate forecast of traffic through our network infrastructure.

We monitor and model service traffic, performance, utilisation and the supporting infrastructure. We engage with our partners to build strategic plans that address the future requirements of the service and enhance its resilience and agility as it scales up. SEC Modification (MP116) establishes an enhanced forecasting process and variance reporting with customer support.

The breadth and depth of the data captured by the DCC is leveraged to provide more accurate short and long-term forecasts of load and system performance, which can then be used to inform design improvements and demandresponse actions. It is important to find ways to enhance capacity and we aim to put in place mechanisms to manage traffic flow.

We apply similar principles to cover Faster Switching and Market Wide Half-Hourly Settlement. Specifically, we are modelling and forecasting future usage, so that we can be proactive in predicting and managing future utilisation as well as potential capacity constraints. This will help to prevent service degradation and potential outages, as well as building our understanding of how future configuration changes might affect current and projected performance. Through forecasting demand in this way, we can invest more efficiently in network capacity, and therefore provide value for money and reduced costs for customers.



Medium to long term

The DCC's new approach to strategic network capacity recognises the importance of assessing capacity and technology needs on a continuous basis over an extended time horizon. We will develop a robust methodology that predicts and prevents capacity issues from manifesting in the live operation, while maximising value for money.

Our medium to long-term planning will be underpinned by the evolution of our technology stack and validated through our new Network Economics function to ensure we are embedding value for money in our technology selection process.

We will work closely with our customers to understand their aspirations and future network demands so that we can forecast our network capacity and the evolution of our technology stack. We intend to have a clear line of sight to how our technology enablement strategy will meet the growing capacity needs of our customers over a 15-year horizon. We will have the right technology enabled, at the right place and time, embracing re-use and the development of economies of scale as they become available.

> Demand and usage of the network is forecast to increase by 500% over the next four years

Smart Metering – New Functionality

The following section covers our key programmes delivering new functionality for our customers in support of the smart metering roll-out.

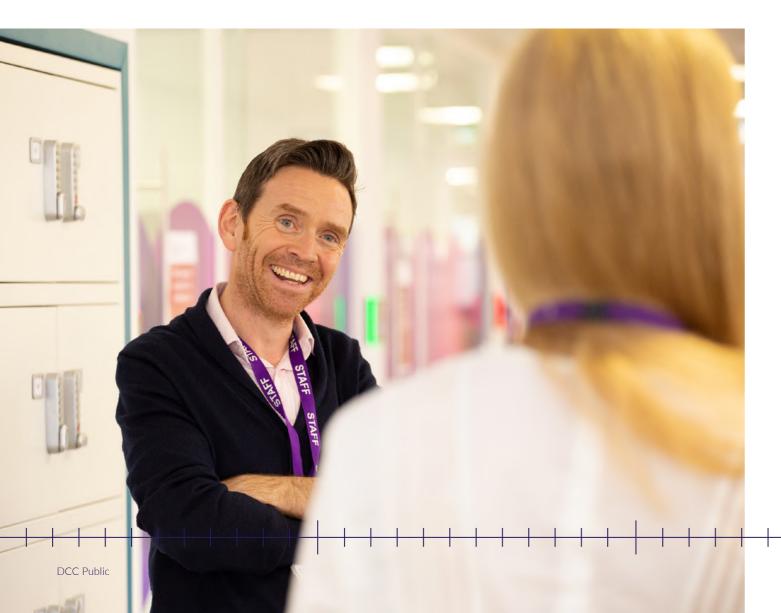
Great Britain Companion Specification (GBCS)

The GBCS sets out data security and other operational standards for communications hubs. BEIS continually reviews GBCS standards to ensure that data security is maintained in line with new and emerging threats. The DCC is mandated by BEIS to develop, test, and deploy new firmware (FW) to all operational communications hubs in line with each update of GBCS.

Currently, we are working closely with CSPs to deliver GBCS version 3.2 compliant communications hubs, and the delivery timetable for 2022 is shown below.

Timeline	Status
GBCS 3.2 FW North Dual Band and Single Band CH	The availability of Dual-Band, Dual-Band Fylingdales and Single-Band Communications Hubs on the Certified Product List (CPL) is to be confirmed and is dependent on Commercial Product Assurance (CPA) certification being progressed by EDMI's test house. The indicative delivery date is August 2022.
GBCS 3.2 FW Central and South Single Band CH	Toshiba communications hubs are expected to be available on the CPL in September 2022.
	GBCS 3.2 Central and South Dual-Band Communications Hubs were delivered in the supply chain in February 2022.

The next major upgrade for GBCS will be GBCS version 4.1. Delivery plans are in the process of being finalised.





SMETS1 Enrolment and Adoption

While the Final Operating Capability (FOC) was delivered The SMETS1 Enrolment and Adoption Programme is in February 2021, there have been ongoing deployments enabling the migration of more than 16 million firstgeneration SMETS1 smart meters onto the DCC network to stabilise the platform and upgrade devices to new where they will become fully interoperable between energy firmware where device-related issues have been identified. suppliers. This will allow consumers to switch energy There are residual activities ongoing for devices that suppliers seamlessly without losing smart functionality became eligible for migration after January 2022, which and will also deliver significant savings to the industry the DCC is prioritising, and device migration will occur as through the consolidation of commercial contracts. The soon as the retail suppliers make them available. objective is to stimulate competition in the retail market and allow consumers to enjoy the full benefits of products **Migration Performance** and services which depend on smart metering. Migration As of June 2022, more than nine million SMETS1 meters also extends the operating life of first-generation metering across our three cohorts have been successfully enrolled on assets, contributing to reduced waste in electronic goods the DCC network, including 3.78 million previously 'dormant' and improved sustainability.

The programme is complex and technically challenging, involving multiple hardware and software combinations operating in a live environment. The migration and operation of each cohort has required the deployment and integration of a new platform. All cohort migration capabilities went live between August 2019 to February 2021.

Enrolled Meters	Initial Operating Capability (IOC)	Middle Operating Capability (MOC)	Final Operating Capability (FOC)	Total
Active	2,290,835	2,545,205	492,591	5,328,631
Dormant	1,017,173	1,395,513	1,365,976	3,778,662
Total	3,320,092	3,959,750	1,858,593	9,138,435

Figures accurate as of 28 June 2022

Final Operating Capability

meters which have had their smart capability restored. We have prioritised migrating the dormant meters we are able to identify and enroll onto the network. The migration of active SMETS1 meters depends upon energy suppliers offering the meter to the DCC.

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Post Migration

Our customers have welcomed our Migration Control Centre (MCC) and Hypercare capabilities, which help the industry to coordinate meters in readiness for migration and provide real-time monitoring after migration.

It is imperative that energy suppliers make the meters operational as soon as possible post migration to ensure that consumers can benefit fully from smart functionality. We are working closely with our customers, BEIS and Ofgem to make sure this happens.

Ending SMETS1 migrations and transition to business as usual

We are preparing for the closure of the DCC's Migration Service and the transition to in-life operations. Energy suppliers have a licence requirement to conclude all migrations by 31 December 2022, at which time they should have taken all reasonable steps to enrol their SMETS1 meters onto the DCC system.

Device swap outs

The DCC currently supports device swap outs for all SMETS2 devices and SMETS1 Prepayment Meter Interface Devices (PPMID). However, other SMETS1 devices cannot currently be swapped out for a new SMETS1 device. If a SMETS1 device (other than a PPMID) needs to be replaced, it requires a complete SMETS2 replacement.

The DCC recognises the need of our customers for SMETS1 device swap outs. We envisage that device swap outs, in line with regulatory requirements, will be used to replace single devices within a SMETS1 installation with a new or refurbished SMETS1 device. The DCC is considering the best means to provide this capability cost effectively for customers and consumers.

Distribution Network Operator (DNO) Transformation Programme

The DNO Transformation Programme has been established to ensure there is a focus on meeting DNOs' specific requirements in relation to Smart Metering, and in particular, consistent and accurate reporting of power outage alerts. Once delivered, the Programme will ensure DNOs can leverage DCC services as an enabler to deliver a cost-effective and quality service to their customers improving fault response and assisting in targeting network investment.

Projects and outcomes

There are five key projects and workstreams that will be delivered during 2022/23.

SECMOD MP096 - We are working with DNOs to improve SMETS2 Power Outage Alert (POA) performance and ensure that requirements for POAs are integrated into the design of our Network Evolution Programme (NEP). This will allow us to reconcile the POA requirements laid out in the SEC with what is required by the DNOs and what is deliverable by the network.

Reporting project – We are building automated DNO reporting packs that will provide actionable data for key performance measures and develop data insights to enable performance improvement and optimisation of DNO networks. This builds on work in 2021/22, when we delivered four reporting packs with visuals, raw data and user guides consisting of customised operational data as defined by the DNOs.

Service improvement project – We have established a joint, prioritised and change-controlled view of the current backlog of DNO service issues and an improvement plan to

resolve these. The project will also develop a Memorandum of Understanding (MoU) with industry parties – primarily meter manufacturers, the DCC and DNOs – to agree best practice for meter testing and downstream firmware defect management. Some actions have already been implemented, leading to a streamlined meter testing process and a reduction in the number of days required to test. Overall, this has reduced costs, while also freeing up testing capacity for other purposes. These process improvements will be formalised through signing the MoU.

During 2021/22 we resolved the majority of the 28 key service issues identified at the start of the programme and, working with the DNOs, completed firmware testing on production releases for Landis and Gyr, Aclara, Honeywell and EDMI meters. In 2022/23 we will complete the backlog of service issues and meter testing with the support of DNOs and device manufacturers.

In the coming year, we will also deliver additional customer reports, an innovation workshop and hold a third round of bilateral meetings. We will continue to develop strategic relationships with the DNOs to ensure that we are aligned with their business plans as governed by the RIIO-ED2 regulatory framework for rewarding innovation.

New and optimised services for customers

We are collaborating with DNOs to maximise the value which they can obtain from the DCC network, improve their customer experience and increase the effectiveness of industry device testing. For example, during 2021/22 we concluded a project to investigate how we can support DNOs to optimise their service requests for voltage quality and consumption while using the Arqiva network in the CSP North region.



In 2022/23, we will start a process to capture the emerging business requirements of DNOs and review how the DCC can deliver functionality in support of these ahead of the DNOs' regulatory business planning. As described in the <u>Future Market Trends</u> section, we anticipate that DCC's network and core capabilities can help facilitate the DNO to Distribution System Operator (DSO) transition.

Engagement Workstream

We will redefine our engagement model with the DNOs to deliver better outcomes for them. We will do this through bilateral meetings and coordination between the DCC, DNOs and relevant industry groups. This project will also reinforce strategic alignment between the DCC and the DNOs' RIIO-ED2 business plans.

We expect that the DNO Programme will close by the end of March 2023, having achieved its primary objective of addressing historic issues and delivering a consistent and high-quality experience. Ongoing improvements will then be delivered through our Operations function.

The introduction of a "Head of DNOs and Other Users" role in Service Management will ensure that the transition to "Business as Usual" is actively managed. On an enduring basis, we will provide more streamlined processes to resolve service issues and requests for additional customised reporting. In parallel with this, we also expect affected DNOs to benefit significantly from our commitment to improved performance of the network in the CSP North region.

> We anticipate that the DCC network and core capabilities can help facilitate the DNO to Distribution System Operator (DSO) transition



Enduring Change of Supplier (ECOS) Drivers and objectives

Ensuring that consumers can change energy supplier securely is one of the primary purposes of the smart metering roll-out. An essential part of this is the replacement of the security certificates on smart devices (primarily meters) that identify the responsible supplier. When the original technical and security architecture for the DCC was developed, it was decided to implement a short-term solution, known as Temporary Change of Supplier (TCoS). This was intended to limit the change demanded of energy suppliers during the roll-out of smart meters.

Although TCoS operates successfully at a very high standard of security, it is not fully aligned with the planned Trust Model for smart metering. To ensure full compliance, the plan is to replace TCoS with an Enduring Change of Supplier (ECoS) process.

Programme achievements and milestones

In August 2019, the DCC was mandated by BEIS to deliver an ECoS solution. The ECoS Service Provider procurement process was concluded in 2021.

The original delivery plan for ECoS, published in March 2020, included a formal end-to-end review of the plan and associated milestones following conclusion of ECoS procurement and the onboarding of the service providers. The aim of this DCC led review was to ensure that the delivery timetable remained robust and achievable.

Following this review, the Go-Live date for ECoS was moved from June 2022 to June 2023. This extension will allow for the incorporation of learnings from other programmes, minimise the risk of unforeseen impacts and provide more certainty to the industry. It also complements the timing of the Hosting and Service Management Provider delivery plan.

Consultation on the revised plan has been conducted through the Implementation Managers Forum (IMF) and, while some customers supported the changes, we also received feedback that the new timelines will lead to increased cost. We will continue to challenge our service providers to deliver value for money for the industry.

Customer engagement

To make sure that our customers are fully informed of developments and to give them an opportunity to shape aspects of the programme, we are engaging with them through the following channels:

- ECoS 'Summits' for customers and stakeholders
- Monthly updates at the BEIS-led Technical Business Design Group and regular engagement with relevant SEC Sub-Committees
- Twice monthly drop-in sessions on 'Migration & Devices' and 'Design, Build and Test'
- A monthly newsletter updating on progress
- Dedicated content on the DCC website

Technical Refresh Programme

Drivers and objectives

The DCC is responsible for ensuring that the smart metering infrastructure remains fit-for-purpose to enable the roll-out of SMETS2 meters and the migration of SMETS1 meters.

DCC's Operations function manages any perceived system risks to keep production services operating effectively. The SMETS1 and 2 solutions were first designed and developed in the early to mid-2010s. Inevitably, they are aging and the risks to operational stability and security have grown. Operating and maintaining the core network while adding new functionality and undertaking proactive essential maintenance will become increasingly challenging as technology evolves.

We have reached a point where we need to make targeted interventions in the infrastructure to ensure that it does not rely on unsupported hardware or software, with potential damaging impact on the security and stability of the DCC network.

We have initiated a Technical Refresh Programme with the objective of maintaining the existing service while minimising any risks to the security or performance of the network as experienced by our customers. This will be achieved through effective scheduling and co-ordination of technical refresh work planned across SEC Maintenance Releases in 2022.



This essential maintenance will exceed the downtime windows set out within the SEC and we are working with SEC Governance to minimise the impact on our customers. At SEC Operations Group our customers requested that we undertake a lessons learned exercise to ensure our plans for downtime are well managed and reflect the impact on our customers. Our findings and how they have been incorporated into our planning were presented in May 2022.

In response to customer feedback, we have also committed to sharing a Service Outage Strategy for 2022-23 at the July SEC Operations Group, which will contain a full picture of all DCC downtime, including Technical Refresh and Business Continuity and Disaster Recovery related outages. Furthermore, we have committed that we will implement a future strategy that minimises the need for downtime through contractual arrangements under the Network Evolution Programme.

During 2022/23 the Technical Refresh Programme will establish a process for technical refresh that enables DCC Operations to manage these updates on a business as usual basis.

> We have initiated a Technical Refresh Programme with the objective of maintaining the existing service while minimising any risks to the security or performance of the network

Standardised Customer Analytics Reporting

Drivers and objectives

In last year's Business and Development Plan, we presented our proposal for customer-facing analytics that will enable customers to diagnose performance failings across the DCC ecosystem. Our internal analytics capability identified differences in performance among all service providers and our customers. We have been working with individual customers to address these issues through our Service Management team.

We will develop reporting which will enable customers to:

- Identify their own performance against key customer business processes
- Benchmark their performance against other customers via anonymised league tables
- Diagnose issues within their own estate which are causing poor performance

This will enable customers to create a roadmap of improvements based upon their individual business priorities. We will support customers in the delivery of their improvements through our existing Operations teams, service providers and forums.

An example of the type of reporting to be included within the new packs can be seen below.

Following discussions with customers it was agreed that the appropriate mechanism for developing this reporting would be through a SEC Modification. SEC Modification 176 is currently being refined through industry consultation. We are working with SEC governance to identify which 2023 release is most appropriate for the Modification to go live in.

Strategic Priority 2:



Ensure that the DCC network remains fit for purpose and is able to respond to change and future demands.

The DCC network and the smart meters connected to it are becoming increasingly central to our customers' core business processes. As customers gain experience of this

The Network Evolution Programme (NEP) will advance our new way of working, they are identifying new requirements and developing new ideas as to how they and their endtechnology platform to ensure its operation at scale for the customers can benefit from the digitalisation of metering. longer term in an efficient way that delivers value for money to our customers. We will remain focused on our security In response, we must ensure our network and supporting infrastructure to prepare for future challenges - such as guantum computing - and to ensure our capabilities remain services develop to meet those future needs. As network usage increases, we will continue to work closely with our at Critical National Infrastructure standards.

The key programmes within the Network Evolution Programme are as follows:



Data Service Provider (DSP) Data Systems **0101** – delivery 2024.

Scope: design and procurement of a data services platform which is secure and sustainable, capable of rapid and costeffective change in response to market and customer demand and with a reduced operating cost



DSP System Integrator (SI) – delivery 2024.

Scope: re-procurement of SI services to enable the ongoing integration and delivery of DCC change programmes



DCC Service Management System delivery 2024.

Scope: re-procurement of an IT Service Management System to support SMETS service delivery



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Graph 1: Example of standardised customer analytics reporting.

customers to make economic and efficient decisions about how we evolve the network.



Communications Hubs & Networks delivery 2024/25.

Scope: design and procurement of next generation Communications Hubs and Networks (CH&N) utilising technologies with a longevity of at least 15-20 years so that the full benefit of an asset's operational life is realised from the point of installation



Trusted Service Provider (TSP) / Smart Metering Key Infrastructure (SMKI) delivery 2025.

Scope: secure a tactical and cost-effective extension to the SMKI security service, followed by the strategic design and procurement of an enduring solution



Test Automation - delivery 2023.

Scope: automate testing of SEC releases to achieve faster and lower-cost testing with additional enhancements that will allow the DCC to confirm the efficacy of changes



Network Evolution Programme

Through the Network Evolution Programme (NEP) we will deliver changes to the technology platform and redesign many of our major external service contracts to ensure the network and supporting services keep pace with technological change and are capable of delivery into the 2030s and beyond.

NEP will deploy new processes, systems and technologies to improve the smart metering service, reduce the operating costs of our systems and, above all, secure the continuity of this critical part of Britain's national infrastructure. The primary triggers for NEP are the future obsolescence of the 2G and 3G mobile networks and the expiry of the current Data Service Provider (DSP) contract, as well as evolution of the network to take advantage of lower-cost technology options such as cloud-based services. By taking advantage of new technology, NEP will deliver connectivity that is flexible and protected, while simplifying operations to meet the needs of our customers' evolving business models with minimum impact and reduced costs. NEP will improve the cost efficiency of the network, lowering the barriers to entry for new suppliers and increasing competition.

Network Evolution – Data Service Provider Data Systems

Programme drivers Driver 1 – continuity of service

The contract for the provision of the DSP service currently held by CGI was due to expire in October 2021 and has been extended to October 2024, with an option to extend further to 2025. The DSP Data Systems Programme has been established to design and procure the future DSP solution.

The primary purpose of this programme is to ensure that customers experience continuity of service as we transition from the current provision to the future DSP, with service and performance levels continuing to meet existing standards as a minimum.

Driver 2 – effective change management and improved service provision

Since the initial design and commissioning of the DSP to support SMETS2 data services there have been regular updates to systems and services as needs have changed. These updates range from routine SEC Modifications to more substantial changes, such as extending the DSP solution to support SMETS1 data services.

Evolving customer business models and technology continue to drive changes across DCC systems and services. Work is currently underway on significant upgrades to support the ECoS and Faster Switching programmes, as well as an ongoing portfolio of change driven by the SEC Modifications process. Within the terms of the current contracts there have also been significant advances in technology which, if adopted, could contribute to a system that is more flexible in supporting future change.

During the lifetime of the new DSP contract, technology and business practices will continue to evolve, inducing a pipeline of change as the industry adapts to, for example, the increased use of Distributed Energy Resources (DERs) and EV charging. The DSP and other systems must be capable of adapting to support the implementation of these new products and services.

Our customers have told us that the cost and pace of change, particularly for the DSP, is a source of dissatisfaction. Procuring a new DSP solution provides an opportunity to introduce more effective change processes, and to improve testing and implementation approaches.

Driver 3 - value for money

When contracting for new services, The DCC has a licence obligation to deliver the best value for money for our customers. The new DSP solution should ensure this for normal operations and when undertaking change. It also provides the opportunity to adopt new and improved technologies, streamline change processes and tighten contractual controls.

Programme outcomes

The DSP Data Systems Programme will ensure continuity of service beyond the lifetime of the existing service. The use of more flexible technology will lower the cost of operation for our customers and enable future re-use of the network for new services.

In establishing the programme, we will achieve the following outcomes:

- Continuity of services as set out in the SEC, with minimal impact on DCC's customers and no detrimental impact to consumers
- Improvement to core DSP services, a lower cost and improved speed of change, and ease of system enhancements to meet future development needs
- Value for money in delivery of DSP services
- Re-engineered systems to ensure that the future security model is maintained
- Reduced Intellectual Property Rights (IPR) in core systems and the adoption of open system standards that enhance system flexibility and capability

The programme is currently at the scoping phase, to define the future business, technology and security landscapes, opportunities and challenges over the long term. As part of this, we are consulting with the industry on the future services to be delivered. The new DSP will be procured to be implemented by October 2024. However, we have an option to extend the current contract until October 2025, should it be necessary.



We are considering a delivery approach that allows for incremental delivery of capability, i.e. some standalone or simpler procurements could commence early while more complex and bespoke components are still being elaborated.

Business Case approach

As directed by BEIS, we are following the HM Treasury Green Book Business Case approach for the programme. This requires the DCC to obtain confirmation to proceed from BEIS ahead of certain procurements that cover core service provision, ensuring that the new service will meet customers' business needs and provide value for money.

BEIS will provide confirmation to proceed in relation to the following milestones in the plan:

- Strategic Outline Business Case (SOBC), ahead of the DCC engaging the market
- Outline Business Case, ahead of the DCC issuing an Invitation to Tender (ITT)
- Full Business Case, ahead of the DCC signing contracts and commencing development
- Go-live of the new service

In the development of the SOBC, we have consulted widely with our customers and stakeholders through established forums, including the Quarterly Finance Forum, SEC Panel and Sub-Committees, as well as undertaking wider engagement through bilateral meetings with customers, industry-wide workshops and as part of the consultation around the 2021 Business and Development Plan.

The SOBC was submitted to BEIS in June 2022. It provides the justification for change and establishes the key business needs.

Network Evolution - DSP System Integrator (SI)

Programme drivers and outcomes

As with the DSP Data Systems contract, the DSP SI contract with CGI is due to expire in October 2024.

Given the anticipated growth of the DCC ecosystem over the next 15 years, we require an enhanced SI service for the new DSP and end-to-end system integration. It will manage operational responsibilities, such as market entry testing, as well as delivering change programmes and integrating new functionality.

The objective of this programme is to engage with the market to find a service provider who can deliver these SI services to the level of quality required by the DCC for the benefit of our customers and stakeholders.

The scope of the new SI will be:

 To integrate the new DSP architecture within the wider ecosystem of DCC service providers. This will involve integration as part of transition of the new DSP Data Systems Programme, up to Go-Live.

- To manage enduring DCC responsibilities such as maintenance releases, analysis of production incidents, technical refreshes, Business Continuity and Disaster Recovery (BCDR), and the testing services defined in the SEC
- To provide market entry testing for new DCC Users and SMETS1 related testing such as Pending Product Combination Tests (PPCT), Migration Device and User System Testing (MDUST) and Device and User System Testing (DUST)

Once the programme and associated plan has been baselined it will be shared with customers and stakeholders for consultation. It is expected that the DCC will be required to follow the HM Treasury Green Book Business Case approach which will be factored into our plans.

We have begun engagement with the relevant SEC Committees to identify business needs for the new SI and we will continue to engage as the programme progresses.



Network Evolution - DCC Service Management System (DSMS)

Programme drivers and outcomes

CGI provides the IT Service Management System (ITSM) for the DCC, based on the Remedy toolset, with the contract due to expire in October 2024.

This programme will provide a value for money ITSM and to ensure continuity of services. The objective is to simplify the ITSM landscape and make use of new SEC compliance technology which will enable efficient change and automation to reduce operational issues. This will improve the overall customer service experience of the DCC's ITSM and service management processes more generally.

In procuring a new service management system, we will seek the following improvements:

Best of breed – we will aim to procure an 'out-of-thebox' solution to enable cheaper and more rapid updates than the current highly customised ITSM

- Automation the current platform has limited automation, requiring manual business processes, preventing the DCC from delivering changes when required. We have an opportunity to select a platform that enables automation
- **ITSM user portal** the Self-Service Interface (SSI) provides a user portal for the current platform. However, changes are slow and inflexible. We will evaluate whether a platform with a more adaptive and flexible portal could be used

Once the programme and associated plan has been baselined it will be shared with customers and stakeholders for consultation.

As with the SI procurement, we have begun engagement with relevant SEC committees to identify business needs for the DSMS Programme and will continue to engage with them as the programme proceeds.



Network Evolution – Communications Hubs & Networks (CH&N)

Programme drivers

The current Customer Service Provider 2G and 3G Wide Area Network (CSP 2/3G WAN) contract for the Central and South region expires in 2028 with an option to extend until 2033. Furthermore, the UK Government has notified its intention to retire all 2G WAN services in the UK by 2033.

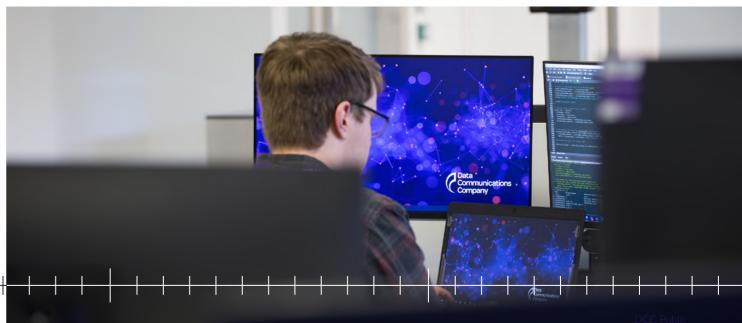
In response to these events, the Communications Hubs & Networks Programme is designing and procuring a new Long-Term Evolution (LTE) 4G connected communications hub service that will provide secure, flexible connectivity and replace current 2G and 3G services.

Programme outcomes

The programme will ensure that the DCC continues to meet the needs of our customers in the medium and long term, using a flexible commercial model that supports effective change and drives value for money for our customers. The CH&N Programme aims to deliver the following outcomes:

- Ongoing secure connectivity, capacity and longevity of devices as cellular technology advances
- Protection of investments already made and promotion of future value for money for customers
- Flexibility to allow ongoing change to support industry evolution

SMETS1 and SMETS2 assets have a 15-year economic life, so the earlier an enduring technology can be made



available, the more we can ensure that these assets fulfil their life span. We anticipate go-live for pilots using the new communications hubs in Q3 2024 and supply at volume of the new communications hubs in Q2 2025.

The DCC currently delivers smart metering services over 2G and 3G to enable both SMETS1 and SMETS2 services. Each has its own arrangements for CSPs, covering the provision of network services and the communications hubs. Maintaining smart functionality over the longer term will require the introduction of new communications hubs covering both SMETS1 and SMETS2 meters which use the newer 4G network. The CH&N Programme is in final negotiations with vendors for a new solution and we expect to sign contracts in the coming months (subject to a BEIS decision).

An efficient transition to 4G communications hubs while maintaining a smooth and continuous roll-out is important. to the industry. It will also be desirable to minimise the risk of a surplus of 3G communications hubs and to avoid complexity for installers. These considerations will require input from across the industry and we propose to engage with stakeholders to develop guidelines, objectives and critical milestones in a new Communications Hub Transition Roadmap.

As directed by BEIS we have followed the HM Treasury Green Book Business Case approach for this programme. The DCC is required to obtain confirmation to proceed from BEIS ahead of certain procurements that cover core service provision, ensuring that the new service will meet customers' business needs and offer value for money. A Full Business Case was submitted to BEIS in April 2022.

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Network Evolution – Trusted Service Provider (Smart Metering Key Infrastructure)

Programme drivers and outcomes

The Smart Metering Key Infrastructure (SMKI) platform provided by BT, also known as Trusted Service Provider (TSP), is reaching the end of life. A tactical solution will be implemented by September 2022, ensuring there is continuity of service until the platform is replaced.

An enduring TSP Programme has been set up to reprocure all TSP services by April 2025. This will involve full design and re-procurement, and the mapping out of requirements began in early 2022. The new solution will be delivered with minimal impacts to our customers and DCC's live services and programmes.

In establishing the programme, the DCC will mitigate the end-of-life risk but will also develop an enduring Public Key Infrastructure platform that will provide the required security, architecture and infrastructure to support both core services and future enhanced DCC capabilities. The new services will be designed to respond to emerging security needs over a 10 to 15-year time horizon.



Network Evolution – Test Automation Framework

Programme drivers and outcomes

The Test Automation Framework programme will support the DCC's commitment to increase the speed of Regression and User Integration Testing and so deliver cost savings, while increasing test scope and device model combination coverage. This will be achieved through utilising enhanced, automated testing capabilities, which will provide greater value for money when testing SEC releases, maintenance releases and firmware releases. We received SEC Test Advisory Group (TAG) endorsement of our approach in September 2021.

A Full Business Case was submitted to BEIS in June 2022.



Security

DCC Security regularly assesses our maturity against industry standards and implements improvements across internal IT and security operations.

Significant advances have been made throughout 2021/22 with a focus on becoming more resilient and efficient. We are building on the following four pillars during the current year:

- Information management
- People
- Supply chain visibility
- Security Operations Centre expansion and accreditation

Our threat-led strategy sits above these four pillars and guides our activity as a function.

Threat-led strategy

Cyber security risk management practices are largely driven by compliance requirements, which force organisations to focus on security controls and vulnerabilities. But this approach can hinder them in combating the most critical element in risk management - threats, which are ever changing, and increasing in severity and complexity.

Placing threats at the forefront of strategic, tactical and operational practices helps us to integrate functions across IT and Security. Architects, engineers and analysts follow a common methodology that incorporates threat analysis and intelligence across systems development and



operational processes. This ensures that security controls are implemented, evaluated and adjusted over time to address the highest impact threats and attack vectors.

This threat-led approach drives improved resource allocation, reduced costs, and produces agile and resilient cyber security practices.

We are applying this strategy to new and re-contracted services, such as Faster Switching and Network Evolution, as they go-live. We will be expanding our external engagement during 2022/23 to socialise our achievements and ensure that security best practice is communicated to wider DCC stakeholders.

Information management

The initial phase of the DCC's Information Management Policy renewal is complete and tooling is being rolled out to enforce more stringent classification of all data. In 2022/23 we will see the deployment of a suite of controls to monitor and control data handling throughout our business.

We also plan to use new and enhanced DCC Enterprise IT tooling to aid improvements in information management. The new tools will provide the controls referred to above as well as better anomaly detection and monitoring capabilities. This also extends to the DCC Amazon Web Services (AWS) hosting estate.

Our security exercises held during 2021/22 identified some areas for improvement in our external facing data store which we are now implementing.

People

Communicating with our people and ensuring they follow security guidance is key to our security capability. As our people return to offices, we are reminding them how to work securely in the workplace and at home. We will engage with them to ensure that they understand the role they have in keeping the DCC secure.

Within Security we are focusing on career development, introducing graduate and entry-level pipelines and roles, with career paths managed through to senior levels to minimise attrition and ensure fulfilled staff in relevant roles.

Supply chain visibility

During 2022/23, we will assess how we can use the large amounts of asset, user and compliance information we hold to map out views of our supply chain so that we can identify potential risks before they become issues. This will include combining data from the supply chain with DCC Security Operations data to create live views of where suppliers may be under threat of attack.

Security Operations Centre

External assessments of key service providers have shown that the quality of their security monitoring is lower than we can now achieve within the DCC. This, and the desirability of a single perspective on security events, has refocused our efforts on hosting the Security Operations Centre (SOC) ourselves for the whole DCC network, including our service providers.

This transformation will take time, requiring commercial discussions with our service providers and the provision of DCC's security monitoring solution to a number of stakeholders. During 2022/23, we will make significant progress in moving to a single perspective for security monitoring. The principle benefits of this change will be:

- Higher quality monitoring outputs
- Cost savings and improved value for money as we reduce duplication of security monitoring

The SOC is currently preparing for CREST Accreditation to demonstrate our excellence in this area.



Smart Energy Code (SEC) and Retail Energy Code (REC) Releases

The DCC operates under two industry codes – the Smart Energy Code (SEC) and Retail Energy Code (REC) – governing the end-to-end management of smart metering and the operation of the retail market respectively.

Our In-Life Change (ILC) team focuses on delivering highvolume, low-cost change, in a repeatable, controllable and scalable way. Our experience of delivering SMETS2 SEC change is now being leveraged more widely.

The objective of the ILC team is to deliver value for money technical system changes as requested and approved by SEC and REC parties. Our approach focuses on learning the lessons from previous releases, allowing these parties to realise the full benefits of their respective changes.

SEC Modifications are industry-wide requests for changes to our services and we are required to deliver two SEC System Releases each year in June and November. Following Go-Live of the Central Switching Service, relevant REC Change Proposals will be delivered twice a year through REC Releases in June and November.

SEC Releases delivered in 2021 and 2022

The June 2021 SEC Release was cancelled as it was decided that the proposed changes could be more economically and efficiently delivered in other SEC System Releases. The November 2021 and June 2022 SEC Releases were delivered on time and under budget.

Forward look

The ILC team is preparing to broaden its scope of activity to include SMETS1 enduring technical enhancements, enduring Great Britain Companion Specification (GBCS) change and REC Releases.

In the coming year, the team will take responsibility for managing REC Change Proposals and Releases. A key consideration will be to manage change and releases in a way that respects the requirements of both the SEC and REC. To help ensure this, the ILC team is supporting the Cross Code Steering Group, an industry governance body that coordinates change and releases when they impact on more than one energy code.

The ILC team is also developing an enduring delivery framework for future GBCS changes, with the objective of maintaining a cadence aligned to industry requirements.

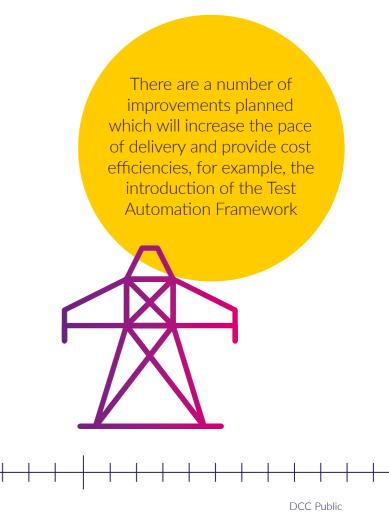
Preparations for the November 2022 SEC releases is also on track. Planning for an appropriate release window for Market-Wide Half Hourly Settlement (MHHS) is underway, as this will be delivered through a SEC Modification.

Improving processes and governance

There are a number of improvements planned which will increase the pace of delivery and provide cost efficiencies, for example, the introduction of the Test Automation Framework (for more information see <u>Network Evolution –</u> Test Automation Framework).

In 2021 we raised a SEC Modification to implement recommendations to improve the SEC Section D Modification Process, following an end-to-end review of the framework led by the Smart Energy Code Administrator and Secretariat (SECAS). This will improve the efficiency and transparency of the process, as well as aligning it to match current working practices. This modification is currently in the "Refinement" stage, and is expected to Go-Live as part of the November 2022 SEC release.

Through our SEC Releases we have learned the benefits of engaging early in solution design with our contracted service providers. With the SEC Modification required for the MHHS Programme we involved our service providers at an early stage, allowing us to resolve emerging issues and ensure that we were providing technically accurate and value for money solutions (for more information see <u>Market-Wide</u> <u>Half-Hourly Settlement</u>). We will apply the same successful collaboration approach we have used on the MHHS solution design to future SEC and REC Releases.



Strategic Priority 3:



Mandated Programmes

Successfully deliver the programmes over and above smart metering that are mandated by Government or the regulator.

The DCC has been selected by the Government and Ofgem to deliver several key changes relating to the reform of the retail energy market.

We were chosen by Ofgem to lead the Faster More Reliable Switching Programme and operate the live service. We are also a major contributor to the Market-Wide Half-Hourly Settlement Programme, which is key to facilitating innovation in the retail market and the delivery of domestic demand-side response.

In addition, we are ready to respond to any requests from BEIS and Ofgem about future applications of DCC capabilities to deliver further policy objectives within the energy sector.

Reforming the Retail Energy Market

Faster and more reliable switching

The delivery of faster, more reliable switching is a significant milestone in the transformation of the retail energy market. It will increase competition and provide a foundation for innovation leading to improved consumer value, experience and engagement with the market.

As Ofgem's key delivery partner, we have built and will operate the Central Switching Service (CSS), which provides the capability for energy consumers to switch energy supplier on a next-working day basis. Through the Switching Programme we have managed the consolidation of 27 existing and new systems and the integration of around 200 licensed parties into the CSS as a single core system.

The CSS went live in July 2022 and our focus over the past year has increasingly been on the transition to live operations. Once Ofgem is content that the new systems and processes are stable, the Switching Programme will be formally closed. Our priority will then be to provide a robust and continually improving service in the early years of the live operation.

Alongside the introduction of the CSS, the DCC's enduring requirements for switching have been activated as part of new regulatory obligations contained in the Retail Energy Code version (REC v3). Following a transition period, the formal governance of switching will move from Ofgem to REC-led governance, managed and overseen by the Retail Energy Code Company (RECCo) and the REC Code Manager.

Operational readiness and service transition

The introduction of the new switching service adds to the volume and complexity of work undertaken by the DCC Operations function.

A key part of our preparedness for Go-Live has been the enhancement of our Target Operating Model (ToM) to support the new switching service and meet our regulatory obligations contained in REC v3. The ToM has been designed to allow the new switching service to benefit from the knowledge, skills and experiences that DCC Operations has gained over recent years, while providing a logical separation between DCC's switching and smart metering services.

Mobilising the ToM has been supported by the DCC's Service Introduction & Acceptance Team, which has managed the transition of all new or enhanced services into DCC Operations since 2018.

The DCC Operations Hypercare team will be supporting early live service operations, ensuring a heightened focus and attention on the proactive identification and resolution of any issues. This team will be supported by service provider subject matter experts. The Hypercare team will support operational teams until it is satisfied that the new service is stable and delivering the expected outcomes.

Switching enterprise transition and REC compliance

To ensure that the DCC is prepared for Switching Go-Live, we established a Switching Enterprise Transition (SET) Programme. This is an internal transformation programme requiring those functions impacted by new REC v3 regulatory obligations to devise and implement necessary changes to the organisation, processes and tools needed to meet the associated REC requirements. The Switching Enterprise Transition Programme has co-ordinated compliance with the DCC's REC requirements and the implemented associated actions ahead of the service going live in July 2022. The five steps below describe the model we used to ensure readiness for Faster Switching and REC v3.

1. Analyse

Analysis of REC version 3

Allocation of obligations to functions

2. Evaluate

Impact assessment to feed business planning and identify process and tool updates

3. Build & Track

Build DCC Operating Model

Identify Critical Success Factors

Build REC Code Manager Model

4. Evidencing & Comply

Post REC v 3 baseline

Test and Evidence compliance

Support wargaming

5. Transition & Go-Live

Transition from Programme to BAU

Aligned, co-ordinated and ready



Use the Retail Energy Code to drive all that we do

Take a holistic approach that is integrated to the wider DCC business, helping to drive efficiency

Deliver iteratively, cultivate cross collaboration, empowering teams to own compliance and ways of working



Customers shaping our enduring approach

We are preparing a proposal document to explain the DCC's enduring operation of switching (and wider compliance with REC). We will consult with customers on this in Autumn 2022. We are also developing a framework for future customer engagement.

Address data

The quality of address data for consumers is critical to the operation of the switching process. An industry recognised Retail Energy Location (REL) Address is to be introduced to improve consumers' confidence and their experience of switching.

Working with our service provider, Landmark, and the industry we have made significant progress in automatically matching the industry's address data to a "gold standard" address database (provided by Ordnance Survey). Ofgem identified a 94% match rate to the address database as the "Do No Harm" level which would be needed to avoid any adverse impacts to switching. As of June 2022, we have achieved a 95.33% match rate and will be aiming to continually improve on this.

We are working closely with DNOs and gas transporter companies as source data providers to improve overall data quality by ensuring that meter points are accurately matched to premises' addresses. This will save consumers time and inconvenience when switching, as well as reducing costs for suppliers. With the CSS now live, the DCC has developed an Address Quality Plan, that sets out activities that will be undertaken, by the DCC and source data providers, to improve address quality. This plan will be made available via the REC Portal.

Technology roadmap

We will ensure that the design of the switching system remains fit for purpose throughout its life. To that end, we have commissioned analysis of the changes and innovations likely to affect switching in future years. This work influenced our choice of the solution we procured from Landmark. From day one, it has the functionality to handle any large-scale increases in switching volumes, ensuring that the system can remain agile and meet the needs of our customers for the foreseeable future.

> We are working with DNOs and gas transporters to improve address data quality

Market-Wide Half-Hourly Settlement (MHHS)

Programme drivers and objectives

Electricity settlements and trading work on a half-hourly basis. However, domestic meter points are settled on a non-half hourly basis. MHHS will mandate energy suppliers to settle all customers with capable meters every 30 minutes. This opportunity has only been made possible by the roll-out of smart meters which can capture half-hourly data and transmit it back to the supplier.

Through MHHS, energy suppliers will be exposed to the exact half-hourly costs of customer consumption patterns, rather than this being estimated, as it is today. This will encourage electricity suppliers to offer time-of-use tariffs, which in turn will incentivise customers to shift their consumption to times when energy is plentiful and cheap. It will help to increase competition for the benefit of consumers and support the Government's ambitions for decarbonisation.

Programme governance and DCC's role

The industry changes for MHHS centre on the Balancing and Settlement Code (BSC), although other electricity codes and agreements are affected, including the Smart Energy Code (SEC) and Retail Energy Code (REC), to both of which the DCC is a party.

We have worked closely with Ofgem and our service provider Elexon to implement the required MHHS changes to the SEC and to DCC Systems through SEC modification MP162. This modification is progressing through SEC governance and is on track to be implemented in line with the industry programme. The changes include accommodating the additional data needed for settlements (over 17,000 half-hourly readings per year per meter) and introducing a new user to the SEC who can retrieve this data on behalf of electricity suppliers.

The DCC has been active as an MHHS participant within the programme decision and working groups during 2021 and this will continue throughout 2022/23. This includes supporting programme level decision making, agreement of new and revised industry processes under MHHS and the subsequent changes needed to relevant industry codes and agreements.

Programme milestones

The DCC and SECAS are working with industry participants and Ofgem to approve SEC modification MP162 in Q3 2022, and for the DCC to implement the required changes by February 2024 when the modification will go-live in the SEC. This supports the wider programme timings, with migration of consumers to half-hourly settlements due to start in 2024 and complete in October 2025. A programme re-plan is scheduled for summer 2022 and therefore these dates are subject to change.

Strategic Priority 4:



Identify and promote ways to re-use the DCC secure network with the objective of reducing charges for our customers, and supporting Net Zero.

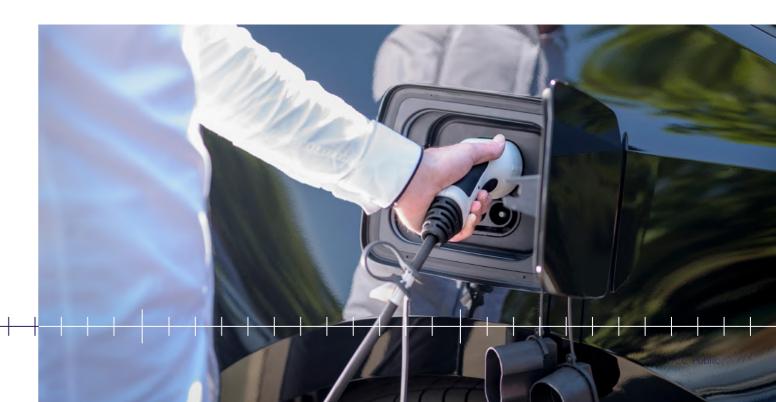
The DCC network provides a secure, GB-wide messaging platform that has been built and paid for by all consumers through their energy bills. It is complemented by the Central Switching Service, including its unique features such as the Retail Energy Location (REL) Address database.

Both assets are backed by the DCC organisation – a business capable of delivering complex technology-enabled change programmes and then operating them for the benefit of our customers and the wider energy system.

This combination of network and system capabilities, run by an expert organisation providing programme delivery and in-life operations, can be uniquely useful to the Government and the industry in helping to transform the energy system. Through undertaking new activity, the objective would be to use the revenues to reduce charges for our existing customers.

In considering how the DCC might extend its services, we have divided our approach into four specific growth areas:

• Mandated growth – Working with the Government and Ofgem to implement their policy objectives either through new mandates for additional uses of the smart



metering infrastructure or through new technologyenabled change programmes. In time, new applications leveraging the capabilities of the CSS might also be considered

- **Customer-led system enhancements** Extending existing core capabilities, such as the DCC test labs, and building new development tools to enable our existing energy customers to deliver their smart metering obligations more cost-effectively or create innovative products and propositions for their consumers
- Improved Self-Service for DCC customers Developing an enhanced 'self-service' offering, through which we can deliver bespoke capability or enhancements for specific customers on a bilateral and commercial basis
- Non-mandated growth Developing additional products to demonstrate the capability of the DCC platform, where the opportunity does not arise through elective services, and with emphasis on the requirements of other users and non-energy settings. Activity in this area is expected to be very limited during the current licence period

Mandated Growth

Working with our customers and partners, the DCC has delivered one of the most complex examples of secure digital infrastructure in the world. This infrastructure is operational and has already been paid for by consumers.

The Government's initial vision of a secure, nationwide smart metering network included the potential for its wider use. Given the sums invested, it is prudent to seek to use its core capabilities for wider public benefit. We are therefore exploring several opportunities in which the endto-end system and its features might be used to facilitate the delivery of government policy objectives.

Since the last Business and Development Plan was published, the Market-Wide Half-Hourly Settlement Programme has been initiated and we are now working on it with Ofgem, Elexon and the wider industry (see Market-Wide Half-Hourly Settlement section).

There are several other potential opportunities which are in various stages of discussion with the Government and/or Ofgem. In each case, there is uncertainty about whether they will go forward and if so when and whether the DCC will play a role. We are exploring innovation funding opportunities from the Government and regulator to support research and development activity in line with their policy priorities.

Current discussions are listed in the table opposite.

One of our key objectives is to help our customers improve the efficiency of their systems and processes, and to develop new products and services for the end consumer

Customer-led System Enhancements

One of our key objectives is to help our customers improve the efficiency of their systems and processes, and to develop new products and services for the end consumer.

Our customers have told us that they need a more agile development capability, alongside better designed and more cost-effective mechanisms to support change, new products and propositions. We have been able to help them by providing them with tools such as the smart meter Interoperability Checker and DCC Boxed, as well as through our extensive test lab facilities.

DCC Boxed has been developed with input from our customers. The product was launched in April 2022 and is designed to emulate the smart metering network. It offers a suite of testing tools that enable authorised users to better understand, enhance or develop their own solutions.

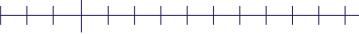
The primary role of our test labs is to support our customers' core business testing needs. However, they can also be used to demonstrate additional functionality within the smart metering system, such as load control, or to facilitate innovation using new devices and applications. We would welcome the opportunity to work with our customers on enhancing these services so that they can derive maximum value from them.

We intend to run regular engagement activities with customers to identify opportunities for improving the infrastructure and providing complementary services. As part of these discussions, customers can indicate whether they would prefer any new service to be provided on a 'payfor-use' basis, or whether it should be delivered through a code modification and therefore become available to all customers as part of the DCC's core services.



Mandated Growth Opportunities

Activity	Summary	Timescales	
Electric vehicle (EV) charging	Exploring with BEIS and The Office for Zero Emission Vehicles (OZEV) the potential for the smart metering network to provide a flexible EV smart charging system, focused on home and workplace charging, incorporating high levels of cybersecurity and proportional load control capability	BEIS has published the Smart and Secure Electricity System consultation, which indicates the role DCC might play	
BEIS/Ofgem policy priority areas: Fuel poverty and vulnerability	We are participating in the Modernising Energy Data Applications (MEDApps) competition, as part of a consortium, to assess how smart meter system data at an aggregated level, when combined with other data sets, can help to identify geographic areas in or at a risk of fuel poverty	MEDApps in pilot phase	
	The DCC is also working on a similar project to MEDApps, known as 'Social Connect', led by a DNO.	Social Connect – proof of concept	
	Discussions have been held with Ofgem about the DCC assisting in identifying information about self-disconnection by consumers	Subject to discussion	
BEIS/Ofgem policy priority areas: Energy efficiency	BEIS has sponsored the Smart Meter Enabled Thermal Efficiency Rating (SMETER) project – exploring data provision and potential connection of temperature and humidity sensors to the Home Area Network to enhance measurement of energy efficiency in the home	Evaluating how the DCC might respond to the outcome of this project eith through supporting further pilots and/or incorporating	
BEIS/Ofgem policy	Considering the role which the DCC might play in two	requirements within our technology strategy Evaluating the extent to	
Flexibility Innovation Programme	initiatives as part of the Net Zero Innovation Portfolio funding being promoted by BEIS	which the DCC participates in these competitive funding opportunities, either throug facilitating bidders or throug active involvement in a bidding consortium	
	The two initiatives relate to:Interoperable demand-side responseAutomatic asset registration		
Central Switching Service: 'Opt-in/Opt-out' switching delivery body	BEIS has been considering the provision of an automated switching service so that consumers could either opt-in to deals presented to them, or would be switched automatically unless they chose to opt-out	Further development of poli is currently on hold due to tl turbulence in the retail energ market	
	A central delivery body would be required to operate these services		
Data services	Nearly one billion messages are sent through the smart metering system every month. The 'system data' generated by those data flows could provide a rich source of insight to help deliver public benefit and solve societal challenges, accelerating the transition to Net Zero	Ongoing development of strategy during 2022/23, working in partnership with the Open Data Institute, including the exploration of potential use cases, addressing barriers to acces and regulatory/legal questic etc.	
	We will continue to explore how we can help organisations innovate with this dataset, providing maximum access robustly and securely, and at the lowest possible cost		
	For further details, please see our "Data for Good" White Paper.		



DCC Public

Improved Self-Service for DCC customers

The DCC is currently exploring options for the improved delivery of services to its customers. There are opportunities to provide bespoke information and service offerings for customers, which will reflect their diverse requirements through an enhanced 'self-service' offering. This approach has the added benefit of providing costreduction opportunities, with a standardised interface and limited DCC resource required to support it.

Sitting over any new services would be a Single interface / portal through which customers can access the new functionality, which would - based on customer feedback - feature a Single Sign On (SSO) so that users are not presented with a new set of credentials for DCC Services. We are currently in the process of exploring these options with the aim of delivering a set of business cases to support and inform customers before we move forward.

This new capability is different to, and would not replace, the Elective Communications Services process (ECS) as defined in the SEC, which was intended to provide a mechanism through which customers could commission bespoke functionality in the form of new service requests.

Non-mandated growth

In the longer term, we also anticipate delivering our licence objective of cost reduction for customers by generating new revenues from 'Value Added Services'. That means

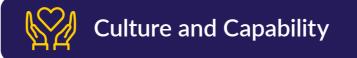
enabling non-energy sector customers to develop new products and services by using the capabilities of the smart metering system.

Any non-mandated activity must be without detriment to our core services, deliver measurable benefits, and be supported by our existing customers and stakeholders. We acknowledge that there is currently a limited appetite for the DCC to diversify into new areas. Accordingly, we do not anticipate any significant activity in areas of nonmandated growth prior to licence renewal in 2025, albeit that we do not exclude it, should a suitable opportunity arise which does not put the delivery of our core regulated services at risk.

We will explore alternative funding models for the development of these activities and hope to finalise the regulatory framework and approvals process for Value Added Services through working with Ofgem. We envisage that this will be covered as part of Ofgem's work to design a new licence for the period from 2025-2040.

We are planning to have mechanisms in place for charging new customers, who did not contribute to the development costs of the DCC network, to use new system enhancements or products developed to support government-mandated growth activities. Our aim in doing so will be to offset development costs and drive savings for our current customer base.

Strategic Priority 5:



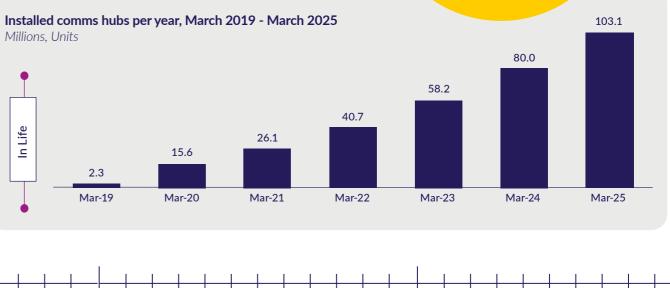
To ensure that the DCC remains fit for purpose and delivers value for money, with an agile and flexible workforce that can support the needs of our customers.

The DCC's role has explanded significantly since it was established in September 2013. We have not only matured in terms of our original mandated activities, but our scope has also widened and diversified to include new mandated programmes at various stages of development. In the coming years, our focus will shift towards the inlife operation and maintenance of the smart metering infrastructure - and other programmes which are transitioning from build to operation – as well as the re-use of the network for the public good.

We must remain fit for purpose as the work we are tasked with grows, and the needs of our customers evolve. With this in mind, we are planning projects to improve the efficiency and effectiveness of our organisational capabilities and workforce. This will enable us to continually improve our service to our customers.



Millions. Units



Business Accuracy Programme

Programme drivers and outcomes

The scope of DCC's work has grown significantly over the past nine years, as highlighted in this document. The volume of activity we are now being asked to undertake by the Government and the industry is unparalleled in our history. We have guadrupled the amount of programme activity and we are managing a growing installed smart meter base. As a result, it has become more important than ever to have a core set of processes, systems and data which can support this level of complexity and provide integrated, reliable business plans and performance reports.

> The scope of DCC's work has grown significantly over the past nine years. We must remain fit for purpose as the work we are tasked with grows and the needs of our customers evolve

We have engaged with our customers on the need for enhancements, and discussed our proposed way forward with them, along with the expected benefits of greater cost efficiency in the way we plan and spend their money. Our programme deliverables have been matched to customer requirements to ensure they will provide value for money. We will continue to engage with customers to ensure that programme benefits are aligned to their expectations.

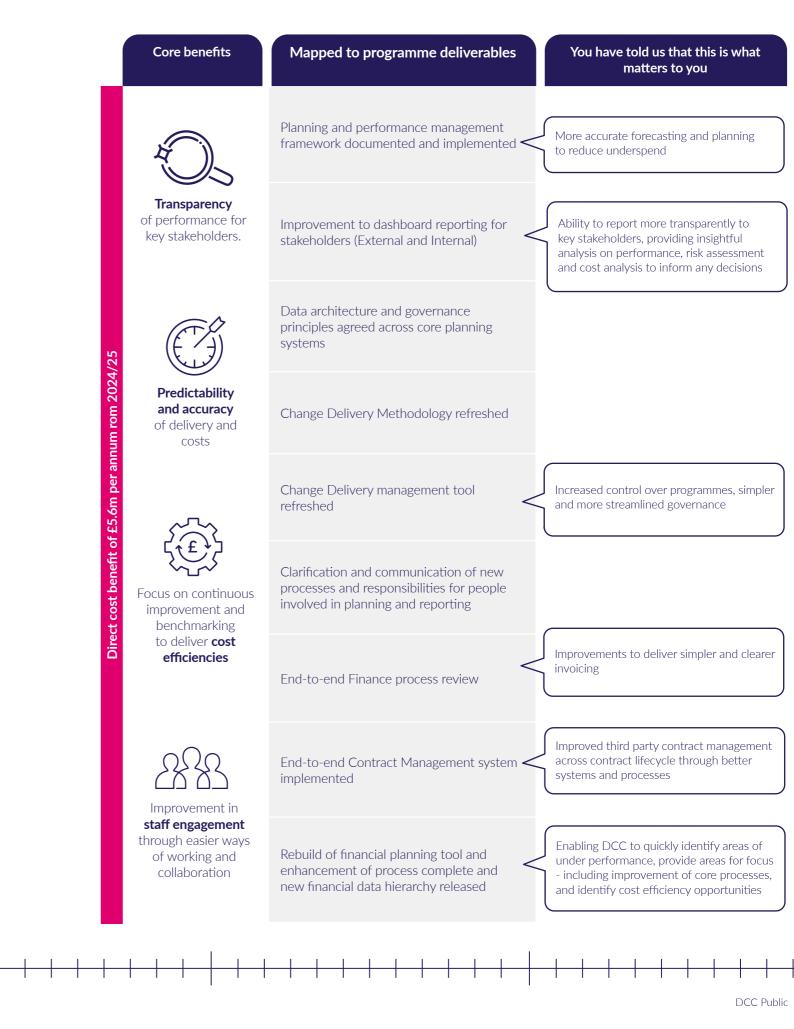
The Business Accuracy Programme will deliver the enhancements we need to create a business planning and performance management framework providing the following core benefits:

- Improved transparency of reporting. This will improve our ability to respond to customer information needs while providing an improved framework for reporting and monitoring business performance
- Accuracy of delivery through better ability to provide resource at the right time, quality and cost
- Performance metrics enabling us to focus on continuous improvement and build benchmarks that can identify efficiency opportunities and improve delivery of value for money for our customers
- Increased staff engagement. This will allow teams to access data more effectively and efficiently, which will improve collaboration and the ability to manage workloads proactively

To achieve this the programme we will deliver the following core outcomes:

- Process and governance Build and implement the "DCC Lock" process, a business planning and performance management framework that will provide a consistent methodology for approving and coordinating business activities and understanding and managing the risks associated with delivering them
- Systems and data Enhancing the current systems landscape and introducing new data governance principles to deliver reliable, timely and consistent datasets that enable accurate business planning and performance management
- **Reporting** Ensuring an accurate, reliable and timely reporting capability, which will allow the business to track performance at all levels and provide a consistent set of reports for internal and external stakeholders and customers
- **People** Ensuring that staff across the DCC understand their roles in the process and have the skills to operate it on an ongoing basis





Strategic workforce planning

The dynamics of the job market have changed significantly in the last 18 months and there is ever stronger competition for the best talent. With 1.3 million vacancies alone in the UK, the competition for talent has placed increasing pressure on organisations to adapt their recruitment practices and employee value proposition. This provides a major challenge for businesses, such as the DCC, which are heavily dependent on the quality of their people and the skills that they possess. Clearly it will be increasingly difficult to fulfil our current and future resourcing needs in a quick and cost-efficient way through recruitment alone.

To address this, we are working on the development of a workforce planning strategy which will ensure that we have access to the right resource at the right time, both to address short-term needs and also looking forward over the five-year timescale of this plan.

There are several different considerations in developing this strategy, including:

- Use of different resourcing channels and enhancement of our employer brand
- Improved selection processes to ensure that we are recruiting high quality people who are the right cultural fit for the DCC
- Developing talent internally and offering enhanced learning for our people

- Ensuring our rewards and benefits remain efficient yet competitive
- Reducing attrition through initiatives such as improved recognition, wellbeing support and flexible working opportunities

Through the adoption of this strategy we aim to deliver the following key outcomes:

- Improved employee retention leading to reduced recruitment costs and better knowledge retention within the business
- Improved customer experience through better qualified, more engaged DCC staff
- Greater flexibility and the ability to respond to changing business needs
- More predictable programme delivery through improved availability of necessary skills

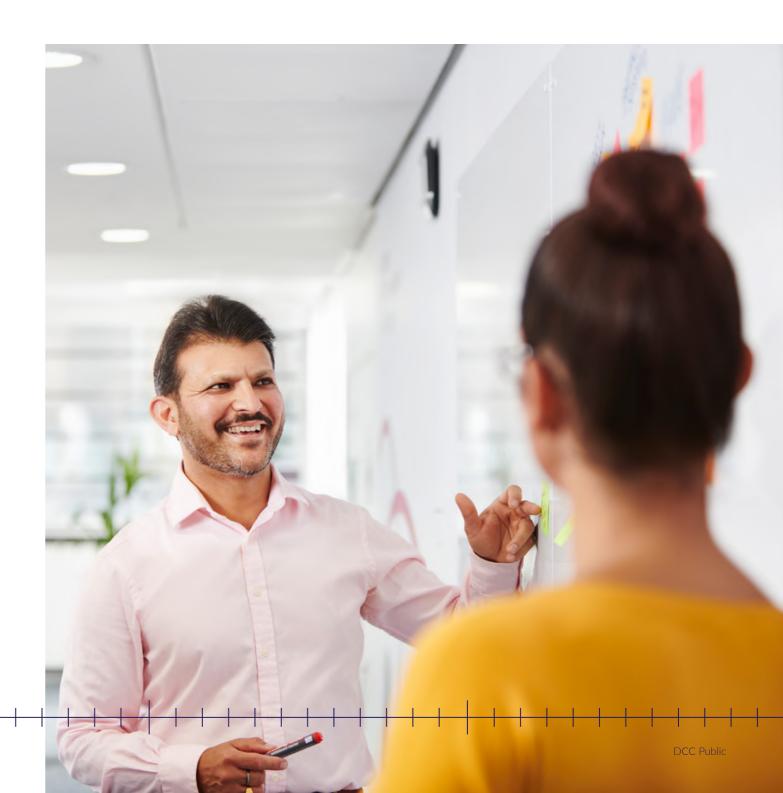
The current ambition is to develop a detailed workforce strategy during 2022. This will allow appropriate initiatives to be included in the business planning for 2023/24 and beyond. The strategy would then be subject to a refresh every two years to ensure that it still reflects the dynamics of the marketplace and the needs of DCC and our customers.

> We are working on the development of a workforce strategy which will ensure we have access to high quality talent at the right time

Culture transformation

Like many companies emerging from two years of remote working during the COVID-19 pandemic, the DCC has seen a rise in employee attrition and a decline in its employee engagement scores. We are committed to addressing these issues, and we have introduced regular employee engagement and listening sessions this year to understand their feelings and act where needed.

A culture transformation programme is now underway to respond to employee feedback and, with the help of our people, we are creating enduring values and behaviours fit for the future. As the business has grown in size and



complexity, the values and behaviours that have served us well up to now must evolve. They will become an integral part of our people strategy and will inform how we attract, select, manage, develop and reward people within the business.

Our cultural transformation programme will also benefit our customer base through improved attraction and retention of talent, higher levels of engagement and more value-adding behaviours.

6. Financial Summary

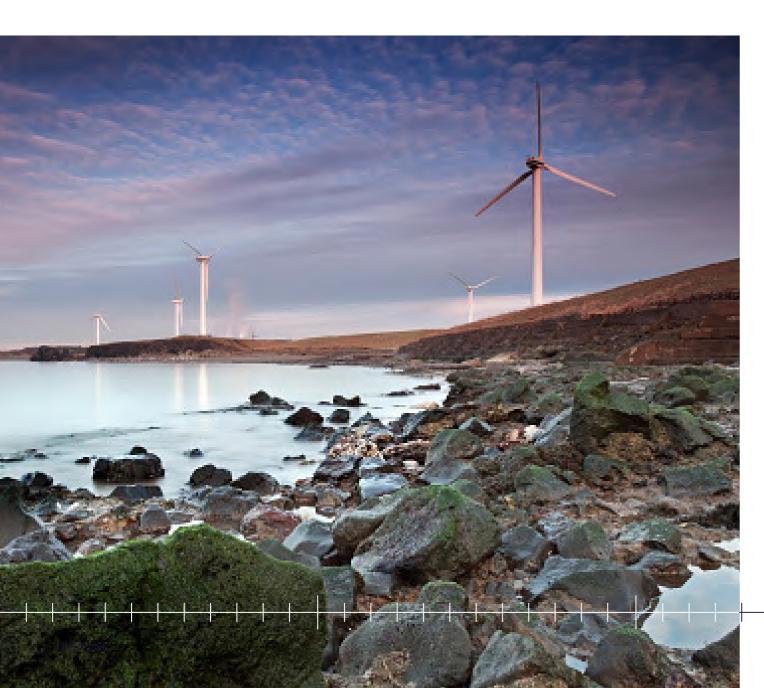
DCC's financial framework

The DCC operates under the Smart Meter Communication Licence ('the Licence'). At a high level, the Licence sets out what the DCC should deliver and how we should spend and then recover the funds necessary to deliver those services. The DCC passes all of our costs through to our customers, DCC Users, through DCC Service Charges.

The DCC fixes charges for one year at a time, and these are usually refreshed in April each year. To allow our customers to plan adequately, we make revenue forecasts available to our customers regularly throughout the year in the quarterly indicative Charging Statement and budget publications. We also host regular finance updates for customers at the Quarterly Finance Forum, where our finance team explains any movements in the forecast from guarter to guarter. In December of each year the revenue is set and converted to indicative charges which then take effect from the following April.

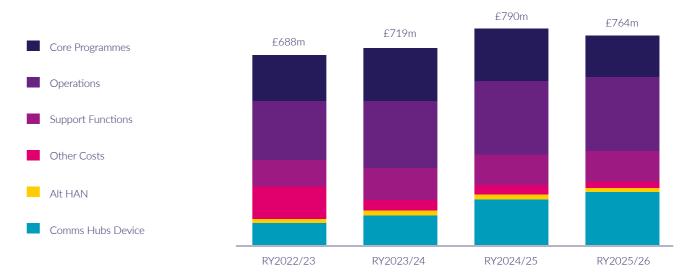
More detail on our cost forecasts and budgets is available in our Indicative Charging Statement, published in July 2022, which can be accessed on the DCC website: Charges | Smart DCC

The DCC is Price Control regulated by Ofgem. Through the Price Control process, we engage with customers and stakeholders, who also have the opportunity to comment on Ofgem's review of DCC's costs. More information on the Price Control process can be accessed on the DCC website: Price Control | Smart DCC.

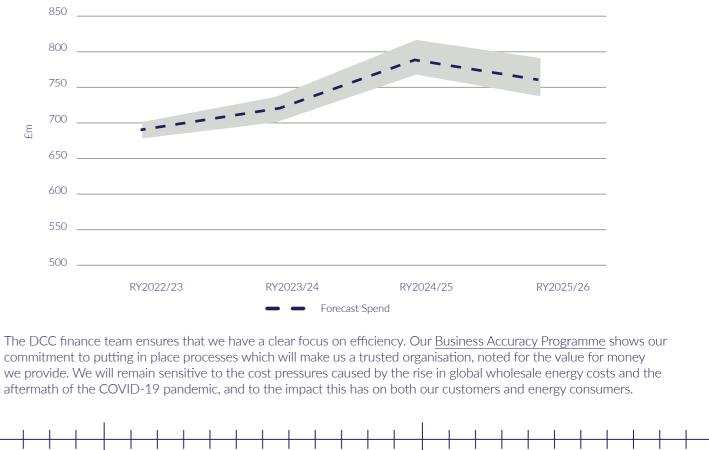


DCC total cost summary

As the DCC's core programmes are delivered and move into live operations, we see spend on operational and support function costs increase. As our operational costs increase, we must ensure we continue to deliver value for money by reducing our operational cost per communications hub. Below is the current trajectory of spend, in accordance with the Indicative Charging Statement published in July 2022. Cost forecasts for further years will be visible in the Charging Statement as required.



Some cost variability is expected as key activities proceed through their planning stage and the network goes through its first cycles of technical refresh. There are also external factors that can affect the DCC's spend profile including changes in interest rates and the economic environment we operate in. Below is a visual representation of our cost forecast within a range we may expect to land in.



DCC Public

Appendix 1

Key Smart Metering Metrics

We report regularly on the performance of our products and services through a variety of channels including monthly, quarterly, and annual performance reports - all of which are available from our Technical Operations Centre. The following sections summarise the current condition of the smart metering system and assess its future capacity.

Volume of Installed Meters

As this document is published the number of smart meters commissioned on the DCC's network is 21,271,739¹, which represents approximately 40% of all meters in Great Britain.

Monthly Cumulative Installed / Enrolled Smart Meters





Monthly Installed / Enrolled Smart Meters

We have over 12 million connected homes, with either a SMETS2 meter installed or an enrolled SMETS1 meter. As there are approximately 30 million homes in the UK, this indicates that the industry is nearing the halfway point of the roll-out.





¹ As of 19 July 2022.

Service Request Volumes and Forecasts

As smart meters continue to be installed and enrolled, we are seeing a month-on-month increase in service request volumes. Between March 2021 and March 2022, service request volumes increased by 113%. Once all meters are commissioned on the network, the network will have capacity to carry more than three billion service requests a month, at an average rate of 1,100 per second.

Monthly Service Request Volumes



Forecast Monthly Service Request Volumes



DCC Public



