

Call for evidence

Review of the regulatory arrangements
for the Data Communications Company



Capita welcomes the opportunity to respond to Ofgem's call for evidence to support the DCC regulatory arrangement review.

Capita is a socially responsible, strategic partner to UK government. Core to our mission is to create better outcomes – for our employees, clients and customers, suppliers and partners, investors, and society. We partner with clients and provide them with the insight and cutting-edge technologies that give time back, allowing them to focus on what they do best and making people's lives easier and simpler.

As the original licence holder and founder of DCC, Capita has an in-depth knowledge of its history, its successes to date and the challenges encountered on the journey. We take pride in DCC's achievements and look forward to supporting further developments and improvements over the remainder of the current licence period.

We recognise key decisions facing Ofgem concerning the long-term purpose and shape of DCC and have sought to support that thinking throughout this paper. Mindful that DCC is preparing a response in its own right, we seek to particularly emphasise the importance of a few key considerations we see as critical to Ofgem's decision-making.

The design of the next phase for DCC will be crucial to the future success of the energy system and wider society and we suggest that Ofgem, in consultation with BEIS, form a cohesive view of their desired strategic objectives, operating model and hence regulatory structure for DCC before implementing substantive changes. We look forward to drawing on our experience to support this thinking further in the subsequent stages of the consultation.

While improvements will continue throughout the current licence period, the benefits to citizens and industry are already material.

DCC is on track to deliver DECC's original 2010¹ ambition for the Smart Metering Implementation Programme: replacing analogue meters to reduce energy consumption, stimulate competition and ensure an affordable, secure and sustainable energy supply. It has managed the design, build, integration, and test of one of the largest IoT networks in the world, capable of hosting millions of devices and regarded as a global exemplar for secure device networks.

At the time of writing, it processes over 150m messages per month between 10m connected devices. The programme scope has now expanded to migrate the 15million SMETS1 meters, under 3,400 design combinations, on to the DCC network. In addition, other functional enhancements are being made including the ECoS programme and delivery of dual band communications hubs. By 2024, it will have connected c.50m smart meters in c.30m homes and business premises.

The benefits to citizens and industry are undeniable: real time data allows for informed consumption decisions, more accurate settlement, reduced physical inspection costs and fair competition by enabling consumers to choose their energy providers. In monetary terms, the total Net Present Value of data use from DCC smart metering services was affirmed in BEIS' 2019 cost-benefit analysis as £6bn,² the same paper forecasts for a breakeven point in 2026 while the total benefit smart metering delivers will continue to grow in perpetuity.

As the licence holder and employer of all DCC staff, Capita took an active role in supporting the initial stages of programme set up, underwriting and mitigating risks - which would otherwise fall on the

¹ Smart Metering Implementation Programme: Prospectus 27 July 2010, DECC and Ofgem

² Smart Metering Implementation Programme – Cost-Benefit Analysis 2019, BEIS

consumers, by deploying expertise, financial resources and key senior leadership to bolster areas such as programme management.

While there are still some challenges to be conquered, in the context of a typical 16% success rate for major government projects,³ the success thus far of such a technologically challenging and complex programme is testament to that set up. Today, we stand committed as ever, ready to support the next phase of development, bringing the ideas, resources and backing of a major Plc and bearing the financial and reputational risk on over £600m p.a. of programme and operational spend with a total annual return of c.3%; below the 4.3%-5% equity return permitted for energy network companies under RIIO-2.⁴

The pace of development will remain challenging up to the end of the current licence period; concluding the smart meter roll out, launching 4G communications, preparing for re-procurements, and moving the Switching service into in-life operation. Immediately following the start of a new licence, DCC will need to be fully engaged with the re-procurement of DSPs and CSPs in 2028, as well as bedding in any changes that result from a new licence, such as a new price control regime. By bridging the two licence periods, DCC will continue its work on delivery of any new programmes that should arise, together with ongoing enhancements to the smart metering platform. Equally, we acknowledge that it is central to DCC's success to continue fostering and improving responsive and collaborative relationships with suppliers and customers, working with industry and new entrants to collectively shape DCC's most effective role in short term market changes.

This next phase will see a shift from programme delivery risk, to operation-centred risks, together with the development of a reuse capability, and we would expect DCC's incentive structures to evolve to reflect that. Based on our experience, the focus for established programmes will soon shift to streamlining operations and continuous quality improvement, driving efficiencies and agile prioritisation based on insights and outcomes, which are areas where we can draw on Capita's established systems and process. In parallel, the process of onboarding new services will become increasingly flexible to absorb programmes and enhance functionality as they arise.

³ [Major projects | The Institute for Government](#) "16% of projects in the government major projects portfolio rated as 'probable' or 'highly likely' to be delivered on time and on budget in 2020"

⁴ RIIO-2 Final Determinations, 8 December 2020, Ofgem

To understand what capability will be required in coming decades, it is helpful to envisage a transformed energy system, whilst maintaining flexibility for the unexpected.

With the decarbonisation of electricity production, depicted in figure 1, will come distributed generation assets, solar PV and other new emerging sources of energy, many of which will present integration and intermittency challenges for the system to overcome. Changes in usage and power generation will similarly drive transformation in how all forms of gases are produced and consumed by society.

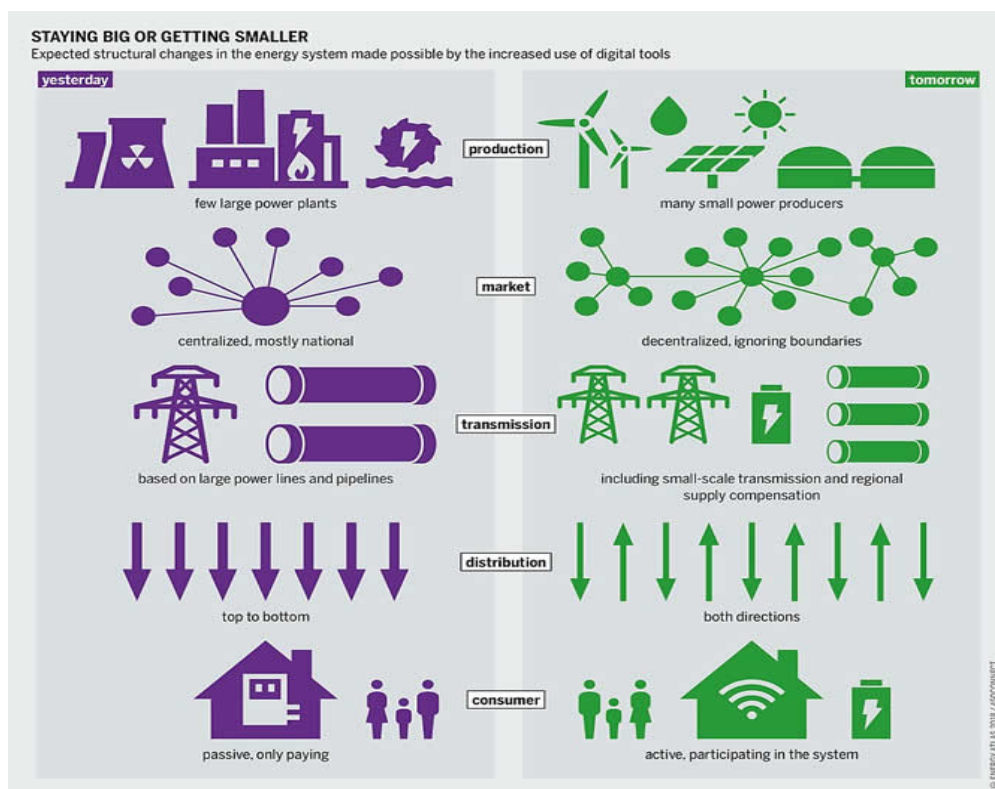


Figure 1 - Expected structural changes in the energy system (source: Energy Atlas 2018)

As this power generation becomes increasingly localised and end-users not only consume but produce and store power, the task of balancing the grid will become more decentralised. The system's ability to adapt to dynamic and changing generation or demand conditions, for example through storage, will entail the need for real-time balancing demand and often at a local level.

Electrification of heat and transport, particularly the rapid proliferation of electric vehicles, will depend on digital controls that permit flexibility in the production, distribution, and pricing of energy, as well as smart appliances that run at optimal times. Proportional load control capability will be critical to enable demand-side response to balance the network.

Combined, these activities will lead to another step-change in industry data volumes and storage which can be harnessed to further benefit the decarbonisation of the economy while being mindful of equity between different demographic groups.

Now is the time to plan how to derive maximum value from the huge investment that UK energy consumers have made in creating the DCC network, its data sets, and wider capabilities

By commissioning the world's most complex deployment of smart meters, Ofgem and BEIS have overseen the creation of a scaled messaging telemetry platform, to which a wide range of IoT devices can be connected. This deployment has the potential to be an important lever for decarbonisation, economic growth, creation of highly skilled digital jobs and the implementation of the government's social agenda.

"It would be a great shame if having created one of the world's largest real-time, two-way, secure smart device platforms all we do with it is save some money by making billing more accurate."
Phil Male, DCC Non-Executive Director

Having proven its credentials by delivering the network and wider technology delivery capabilities, DCC is in a strong position to drive further change in line with Government policy and to rise to the challenges and opportunities presented by the sector's emerging dynamics. By encouraging wider utilisation of its capabilities, it can also improve value for money for its original investors, namely its customers and, by extension, energy end-consumers.

As we outline in figure 2, there is a wide range of roles that DCC could adopt to support these changes: from purely managing and maintaining infrastructure, potentially taking on additional government mandates in energy, through to facilitating secure data exchange to drive change, fostering an innovation ecosystem, and enabling technology-driven transformation in the energy sector and beyond.

Ofgem, in consultation with BEIS, need to decide the extent of their ambition for DCC's role within the system before any consideration of regulatory arrangements can be contextually meaningful. In our view, the aim should be to maximise the public benefit (in the form of decarbonisation, supply resilience and lower consumer costs) that can be derived from the significant investment to date and the unique datasets it creates.

Case studies from other sectors help to illustrate the power and potential role of DCC as an "innovation catalyst" by developing a Platform-as-a-Service model. In this case, a sophisticated API gateway would enable DCC to easily onboard new partners and developers, expose usage data (with appropriate protections around privacy and security) and offer them a set of tools to stimulate fast development and innovation on the back of the DCC network, which in turn would drive behavioural change towards the goal of decarbonisation and policy implementation.

Starling Bank provides an example of this model in the Fintech industry as a tool for system transformation. Backed by the Open Banking directive, it has provided APIs for all its core banking services. This has allowed a great number of start-ups to easily create their own banking applications using Starling Bank's platform and services, which encouraged the establishment of challenger banks to accelerate competition and seismic industry change.

Increasing impact on implementation of policy goals	DCC STRATEGIC ROLE	EXAMPLE ACTIVITIES	KEY OBJECTIVES
	 CORE INFRASTRUCTURE OPERATOR	<ul style="list-style-type: none"> Maintain and optimise infrastructure Facilitate charging and payment administration 	<ul style="list-style-type: none"> Reduce consumer and industry costs by making billing more accurate
	 SYSTEM IMPLEMENTER FOR WHOLE INDUSTRY	<ul style="list-style-type: none"> Deliver incremental programmes Layer on functionality and mandates e.g. faster switching Extend additional applications in the energy system – e.g. ensuring universality of access and interoperability for EV charging 	<ul style="list-style-type: none"> To further promote competition, reduce energy consumption, better protect vulnerable customers and alleviate fuel poverty
	 VALUE-ADDED SERVICE PROVIDER TO ENERGY SYSTEM	<ul style="list-style-type: none"> Support common processes across providers Build services around core capability, e.g. Device testing 	<ul style="list-style-type: none"> To reduce duplication, support new entrants and exploit the foundation for the benefit of the energy system
	 DATA CUSTODIAN	<ul style="list-style-type: none"> Expose data around electricity and gas usage Retain the privacy, security and consumer-centric thinking that makes the current model so robust Offer an integrated and accessible DCC data model coupled with an insight layer 	<ul style="list-style-type: none"> To facilitate data-driven decision making by all stakeholders To deliver greater access to the broadest spectrum of data to the most diverse range of users, enabling the integration of a wide range of other datasets
	 GRID MANAGEMENT AUTOMATOR	<ul style="list-style-type: none"> Deploy AI forecasting algorithms which can be used to inform load-balancing time of use tariffs and behaviour Automate remote demand management capability to manage surges and store excess Manage two-way energy aggregation and exchanges 	<ul style="list-style-type: none"> To enable end users to accurately predict their consumption and pricing to optimise usage/ storage/ supply decisions To reduce peak demand and better accommodate the extra load of electrified heat and transport
	 NETWORK REUSE WHOLESALER	<ul style="list-style-type: none"> Open up the IoT backbone upon which partners may develop unifying solutions in environmental, healthcare, transport, education, law & order etc., to deliver a positive impact on society 	<ul style="list-style-type: none"> To defray the cost of establishing and maintaining the network across a greater number of users, thereby reducing the amount added to energy bills To enable society to further benefit from the IoT network
	 INNOVATION CATALYST	<ul style="list-style-type: none"> Create an environment upon which third party innovators can develop solutions 	<ul style="list-style-type: none"> To accelerate the pace of change in the energy system and become a driving force for UK decarbonisation policy implementation and innovation To create high tech jobs, growth and tax revenues for UK plc
	 COMMERCIAL NETWORK OWNER/ INVESTOR	<ul style="list-style-type: none"> Divest the communications network to a for-profit operator as regulated monopoly with mandatory price caps 	<ul style="list-style-type: none"> To generate sale proceeds for taxpayer To secure fresh capital funding streams for onward development of the network

Figure 2 - (non-exhaustive) range of possible strategic objectives and operating models for the future DCC network operator

The optimal structure, governance, and regulatory regime for DCC in the future will therefore be driven by Ofgem and BEIS's ambition for its role within the energy system. We believe that there are several models that could be appropriate in different scenarios and as the licence holder we are open to alternative approaches and new ideas to make DCC the best organisation to deliver its set objectives and overall outcomes.

We welcome the opportunity to share, in figure 3, a range of alternative structures for consideration. We have then put forward our point of view on the structural and regulatory factors which would best enable DCC to optimise return on investment and achieve even better outcomes in future.

Options	Pros	Cons
DCC to continue largely as is	<ul style="list-style-type: none"> Remove risk of major upheaval at a time when major supplier contract renewals are due for re-negotiation 	<ul style="list-style-type: none"> Regulatory scheme is a legacy from 2013 assumptions Constrains activities to be 'energy bill-payer' funded which may not be appropriate to potential future applications
Fold back into full government control, without a shareholder, either under a Dept (BEIS?) or run on an arms-length agency basis	<ul style="list-style-type: none"> Removes compensation for underwriting risk from the cost of delivery National agenda, policy, and operations under one roof 	<ul style="list-style-type: none"> Removes the lever of parental reputation- and risk-management as drivers of performance Lose access to private sector expertise in running DCC and ability to invest BEIS balance sheet becomes underwriter of last resort
Owned and under direct control of energy market participants	<ul style="list-style-type: none"> Removes some stakeholders friction 	<ul style="list-style-type: none"> Objectives of DCC involve tension points not necessarily directly in the interests of energy providers. Vested interests hamper system transformation Model does not reflect evolution of producer/ storer/ consumer role
Become even more central to the energy system / industry, taking on additional common functions from energy companies and system participants.	<ul style="list-style-type: none"> May allow increased focus on social value Economies of scale and deduplication of system functions End user benefits from consistency of approach across providers 	<ul style="list-style-type: none"> Unclear competitive position between energy providers Limits remit to energy
Hybrid structure to accommodate multiple functions: i) Infrastructure provision (focus on continuous improvement of the smart metering assets) ii) Data provision (security, reliability and access managed as a public resource) iii) Platform provision (fostering technology- and data-driven innovation)	<ul style="list-style-type: none"> Platform operating model opens up the network and data sets to wholesale, retail and 3rd parties to develop services and innovation for the benefit of the energy system Utilisation of the network by other sectors reduces costs to energy users, without further investment or increased risk 	<ul style="list-style-type: none"> Complexity of managing diverse objectives and interfaces between different units
Transfer data into a public interest company	<ul style="list-style-type: none"> Ensures data becomes a vehicle for good in delivering social value Allays concerns of commercial exploitation 	<ul style="list-style-type: none"> Removes future possibility of data as a funding stream for further investment
Fragmentation into multiple entities	<ul style="list-style-type: none"> Accommodates diversity of goals 	<ul style="list-style-type: none"> Lack cohesive approach for data sharing and usage, risk of misalignment between entities

Figure 3 - (non-exhaustive) range of potential structural and regulatory models

Alongside consideration of all these options, insight from our 8 years of experience leads us to believe that there are four fundamental factors upon which, in our view, the future success of DCC will depend:

1. Clear strategic goals, set by Ofgem and underpinned by the right performance levers

DCC's focus will continue to be guided by its priorities; to act in the best interest of the consumer, to support the energy system in its transformation, to help the government deliver its policy objectives and to be a great partner to energy suppliers and distributors. Notwithstanding these overall priorities, clear and specific strategic goals are vital in order for DCC to be able to prioritise appropriately and these must be underpinned by the right performance levers.

At DCC's inception in 2013, the regulatory arrangements were acknowledged as transitional, and over the years, as DCC has continued to mature, additional aspects have been added to the incentive regime. Likewise, the expectations placed on DCC have increased over that time. However, it is clear that the current regime involves some shortcomings that need to be addressed under the future model.

The current price control system involving reconciliation *after* the event does not necessarily ensure that forecasts are projected and risks managed as effectively as possible. In some cases this leads to uncertainty over future costs and in particular a mismatch between what DCC chooses to include in its charging statement and what Ofgem allows during the annual price control. Conversely, ex-ante regulation would not fit the uncertainty profile of new projects, so it may be that some combination of the two is required to encompass both; new and highly uncertain programme delivery activities versus stable and operational activities. Extending the duration of price control periods could further enhance predictability of costs for those cost categories which are deemed suitable for ex-ante consideration.

Alongside this, there needs to be a set of outcome-based performance metrics which flow down to service providers to create a unified and responsive supply chain. In addition, compensation models that reflect a greater focus on end-user experience, behavioural change and constructive innovation may be considered to the extent they incentivise system-wide focus on encouraging societal benefits and the decarbonisation agenda.

Finally, we believe that in order to enable and foster innovation, wholesale reuse in collaboration with B2B partners should be allowed to blossom, and further clarity on rules and regulations on this needs to be articulated; not predicated on tight oversight and commercial clauses but focusing on ensuring innovation does not happen to the detriment of existing functions and place any risk on end-consumers.

2. Having a parent organisation to enable a risk-based approach to drive performance, which is strong enough financially to meet the liabilities that would otherwise fall on the consumer

The effectiveness of shareholder backing presents a superior proposition in terms of risk and reward balance. In its role of shareholder, Capita has effectively acted and will continue to act as a risk underwriter to DCC, and we believe that it is crucial to have an entity that will take the risk and is prepared to take full responsibility, as required. Having a parent allows a meaningful risk/ reward regime and is a powerful tool to drive quality and strong performance, which is core to our company mission. Without it, the only performance sanction is to change senior management.

Capita's scale and experience stand behind DCC as a source of deep expertise, capacity, and as a 'bank of last resort'. Capita honours its commitments and does not walk away or default to commercial arbitration to resolve issues when the going gets tough. Without a properly incentivised shareholder the reputational and financial impact would ultimately land with BEIS. Capita also brings strength of resources at times of heightened activity. For example, a seasoned operator with experience in the process of rebidding, risk management and successful delivery of re-procurements will be crucial during the renegotiation of the contracts relating to the DSP and the CSPs in 2028.

3. Maintaining an independent, empowered DCC and its Board able to balance the interests of all stakeholders – from the energy consumer through to the system as a whole

DCC's achievements are in part attributable to the way it has been established as an independent entity with an empowered Board whose fiduciary duty is the success of DCC in fulfilling the mission given to it. This structure has enabled it to very effectively balance the interests of its regulator, energy customers, consumers and staff, without running into some of the problems experienced by other semi-public / regulated trading companies.

The objectives of DCC will always involve tension points, sometimes welcomed by energy providers, sometimes necessary for the system but not directly in their interests. Even today, the continued roll-out of SMETS1 meters by some suppliers, or unwillingness to sign up to become DCC users, is indicative of the difficulties which would have arisen if some companies had an undue influence on the scope and pace of the Smart Metering programme. DCC's role as a force for system transformation and delivering policy solutions would not be possible if constrained by vested interests.

4. Careful consideration of the timing and risk implications of major structural changes

Ofgem may wish to consider the implications of any major structural changes in a period when ambitions for DCC's future are being clarified and the re-negotiation of the major supplier contracts is underway.

Our recommendation would be that given the importance of the decision at hand and the additional challenges posed by the re-procurement of DSPs and CSPs in 2028, it may be prudent to take extra time and delay any structural adjustments through postponing the licence renewal and using the additional period to carefully consider the various options above in light of the industry changes and ambitions for DCC.

In conclusion, Ofgem, in consultation with BEIS, have a significant responsibility and challenge in future-proofing the components of the UK's Smart Grid, the ramifications of which on the likelihood of successful policy implementation should not be underestimated.

We truly believe that DCC is in a strong position to be a key driver in the pursuit of decarbonisation, economic growth and implementation of government policy.

We strongly advise that Ofgem, in consultation with BEIS, first decide the extent of their ambition for DCC's role within the industry, which in our view should be one that derives maximum public benefit from the investment to date and acts as a catalyst for third party innovation. Additionally, based on this level of ambition for DCC's position we observe - and are open to - a range of alternative structural and regulatory models, about which it would be premature to draw conclusions at this stage.

Finally, regardless of the above considerations, our experience shows that with clear strategic goals, shareholder backing and independence, DCC will stand a greater likelihood of success.

We are fully invested in achieving the right outcome for the energy system, for energy users and for the UK and look forward to expanding on the rationale for our considerations and contributing to the development of ideas from across the energy system, as the consultation continues.