

Improving data access in the UK smart meter data ecosystem

Contents

Executive summary	4
Background	5
The energy data ecosystem	5
The 'Data for good' initiative	7
The smart meter data ecosystem	8
Workshop format and attendance	10
Use cases for smart meter system data	11
Key stakeholders	12
Sustainable data access	12
Technical infrastructure	13
Barriers, risks and mitigations for smart meter system data	14
Building trust: mitigating risks and equitable benefits	14
Recommendations	16
Appendix 1: The value of sharing data	18
Appendix 2: Data access initiatives in other sectors	19
Appendix 3: Additional resources	21

About

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To share feedback on this report by email or to get in touch, contact the ODI, at info@theodi.org.

Executive summary

The Data Communications Company (DCC) is a licensed monopoly set up to design, deliver and manage the smart meter system in Great Britain. This supports the digital backbone of Britain's energy infrastructure. At scale, 30m homes and businesses will be connected to a single, secure, smart metering network.

DCC is currently exploring a data access initiative to improve access to smart meter system data. Similar programmes exist across the energy sector already. Open Energy, supported by Ofgem and the Department for Business, Energy and Industrial Strategy (BEIS), seeks to improve data access in the sector through open data standards for data sharing. The Smart Data initiative, also from BEIS, is aimed at improving data portability across sectors to provide tangible benefits to customers and wider society.

In its discussion paper, 'Data for good', DCC proposes that organisations should work together to improve access to smart meter 'system data' – effectively the metadata about the typical transactional data we think of when imagining the smart meter data ecosystem. The initiative would aim to increase the ability to analyse and use data about the smart meter system, and combine it with data from other organisations, to address some of the big challenges facing the UK, such as reaching net zero, transitioning to a flexible energy system and reducing fuel poverty.

To support this initiative, at the Open Data Institute (ODI) we conducted two workshops to explore the opportunities and barriers facing improving access to system data in the smart meter data ecosystem. The first workshop participants were mainly potential users of smart meter system data, including data-driven service providers, data intermediaries, researchers and academia. The second workshop focused on public concerns of data access and included mainly consumer organisations, civil society organisations and charities.

Across both workshops the main focuses for improving data access in the smart meter space were clear: achieving net zero and local decarbonisation; addressing consumer vulnerability and fuel poverty; and optimising efficiency and reducing costs around domestic energy and bills.

However, there are challenges to achieving these goals. Participants identified that proper safeguards to security and privacy were needed, as well as strong mechanisms around consent, progress monitoring and redress. Ensuring that risks are mitigated as much as possible is crucial to building a trustworthy data ecosystem.

The energy sector is a complex space, and becoming more so with the trends towards digitalisation, datafication (the process by which subjects, objects and practices are transformed into data) and increased collaboration with people and organisations outside the energy sector. But organisations like DCC are part of a data ecosystem comprising people, organisations and initiatives pushing towards similar goals, and initiatives in other industries can help them and their partners understand what works best and what should be avoided. Importantly, DCC should embark on this journey in an open, transparent and collaborative way so that it builds trust, understands how best to mitigate risks and ensure benefits reach as many stakeholder groups as possible.

Background

The ODI works with companies and governments to build an open, trustworthy data ecosystem, where people can make better decisions using data and manage any harmful impacts. In 2020, we began working with the Data Communications Company (DCC) as part of the '[R&D: Data infrastructure for common challenges](#)' project funded by Innovate UK. The purpose of this collaboration was to help inform some of the early thinking that DCC was doing for its [data access initiative](#) focused on improving access to smart meter system data¹, and to learn about how organisations such as the DCC were developing these types of initiatives. This support included running workshops using [Data Ecosystem Mapping](#) and the [Data Ethics Canvas](#) to examine a particular use case in the initiative.

Following the project close and the official launch of the DCC's system data exchange initiative outlined in the '[Data for good](#)' discussion paper, we once again worked with the DCC to facilitate an additional set of workshops exploring the barriers and opportunities for improving the smart meter system data ecosystem.

This report discusses the importance of smart meter system data and improving access to that data to further the goals of the wider UK energy sector. It also brings together analysis of the opportunities and challenges around improving access to that data, based on findings from two workshops with key stakeholders from across the ecosystem. It ends with recommendations for DCC and other people and organisations in the ecosystem.

The energy data ecosystem

In our [2019 report on data infrastructure of the UK energy sector](#), we stated the UK energy sector faces a huge challenge: it must adapt to meet ambitious decarbonisation targets and accommodate new technologies, while continuing to satisfy complex and growing consumer expectations. Data will play an important role in this shift.²

The energy data ecosystem contains data that exists on a [spectrum](#),³ from closed, to shared, to open. Below is a graphic of the [Data Spectrum for Energy](#), produced by the ODI and Icebreaker One.⁴ Much of the data is closed or shared in a limited manner for security and privacy reasons, such as the amount paid on household energy bills. Some data is shared widely such as power outages, network coverage, and asset locations. Ofgem [publishes some statistics](#), for instance on market share and customer service levels, but they are not licensed for commercial use.⁵

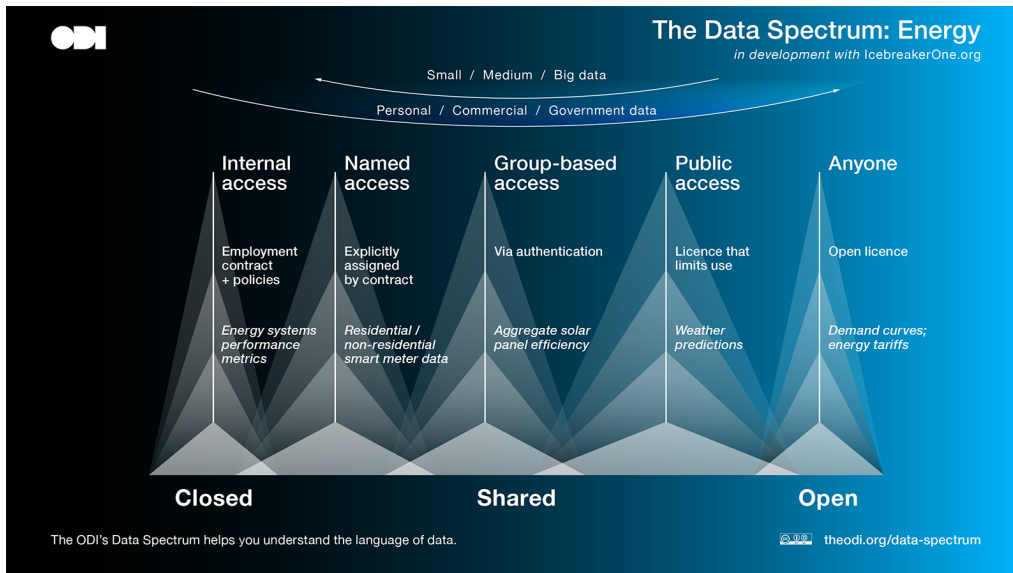
¹ Smart meter system data refers to the metadata produced by the normal operations of smart meters. A fuller description can be found in the next section.

² Open Data Institute (2019), 'Data infrastructure for the UK energy sector 2019-05', <https://docs.google.com/document/d/1iVG6OZuATZLDn5UpXSEhWe-dd2hy1BJOqsPel6n6JZ0/edit#>

³ Open Data Institute (n.d.), 'The Data Spectrum', <https://theodi.org/about-the-odi/the-data-spectrum/>

⁴ Icebreaker One (2020), 'Data Spectrum for Energy', <https://icebreakerone.org/2020/10/02/data-spectrum-for-energy/>

⁵ Ofgem, 'Data Portal Overview', <https://www.ofgem.gov.uk/data-portal/overview>



When data is more open, more people can access, use and share that data, to create solutions to problems and make better decisions. Access to energy data could be integral in solving some of the major social, economic and environmental challenges we face, like reaching net zero or addressing fuel poverty.

Currently under the banner of ‘[Smart Data](#)’, in 2019, a data portability strategy was published as part of the UK Industrial Strategy. This proposed that greater access to data would foster innovation to improve consumer outcomes by:

- accelerating the development of innovative data-driven services in consumer markets
- using data and technology to help vulnerable consumers
- ensuring consumers and their data are protected.⁶

There are several Smart Data, data portability and data access initiatives being delivered in various sectors (see [appendix 3](#)), and in recent years, we have seen the energy sector taking collective action to increase access to data:

- The energy regulator, Ofgem, is one of the organisations driving this agenda. Its Decarbonisation Action Plan describes good data use and availability as ‘crucial to provide better visibility of system usage, spare capacity and constraints, to inform investment needs, and to facilitate opportunities for strategic coordination.’⁷
- Recommendations from the UK government-led [Energy Data Taskforce](#) and now Energy Digitalisation Taskforce steering the industry toward improved data availability, quality and transparency.⁸
- The launch of [Modernising Energy Data](#), a joint initiative between Ofgem, BEIS and Innovate UK, is underway with IceBreaker One developing an [Open](#)

⁶ Department for Business, Energy and Industrial Strategy (2019), ‘Smart Data: Putting consumers in control of their data and enabling innovation’, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/808272/Smart-Data-Consultation.pdf

⁷ Ofgem (2020), ‘Ofgem’s Decarbonisation Action Plan’, <https://www.ofgem.gov.uk/publications-and-updates/ofgem-s-decarbonisation-action-plan>

⁸ Gov.UK (2019), ‘Energy Data Taskforce’, <https://www.gov.uk/government/groups/energy-data-taskforce>

[Energy](#) prototype to improve data interoperability, search and integration in the energy sector.⁹

The ‘Data for good’ initiative

The initiative outlined in the ‘[Data for good](#)’ discussion paper seeks to increase open and shared data in the sector in a way that maximises value for energy customers, opportunities for companies, and provides further benefits to society such as delivering on net zero and fuel poverty commitments.¹⁰ This could be done by looking at what data infrastructure in the energy sector could become *more open*.

[Data infrastructure](#) consists of data assets such as datasets, registers and common identifiers like metadata. It also includes the standards and technologies used to curate and provide access to those data assets and the guidance and policies that inform the use and management of data assets. It can also include the organisations that govern the data infrastructure and has to involve the communities involved in contributing to or maintaining it; and those who are impacted by decisions that are made using it.¹¹ The ‘Data for good’ system data exchange initiative aims to have organisations work together to improve access to energy data infrastructure, starting with improving access to its own smart meter system data.

Smart meters are devices which record the amount of gas and electricity used, usually every 30 minutes. They aim to create opportunities for making the grid smarter and to offer new products to consumers, such as time-of-use tariffs. Smart meters enable energy suppliers to provide accurate billing and export tariffs through measurement of energy use and generation. In addition, messages can be sent to the meter, as well as taking readings from it – this enables a whole range of new functionality including dynamic (time of use) tariffs, change of supplier and load control/demand side response services.

Smart meter system data is not the same as energy consumption data. The term ‘systems data’ can include data about the device itself, high level data about transactions between the energy supplier and customer, and data about the registration of the device, like whether it has been installed in a domestic or non-domestic location. The ‘Data for good’ initiative focuses on what more can be done with more open smart meter system data infrastructure.

⁹ Gov.UK (2019), ‘Modernising Energy Data’, <https://www.gov.uk/government/groups/modernising-energy-data>

¹⁰ Data Communications Company (2021), ‘Data for good’, https://www.smartdcc.co.uk/media/4699/21037-dcc-data-for-good-paper_v8-final.pdf

¹¹ Dodds, L. & Wells, P. (2019) The State of Open Data: Data Infrastructure <https://www.stateofopendata.od4d.net/chapters/issues/data-infrastructure.html>

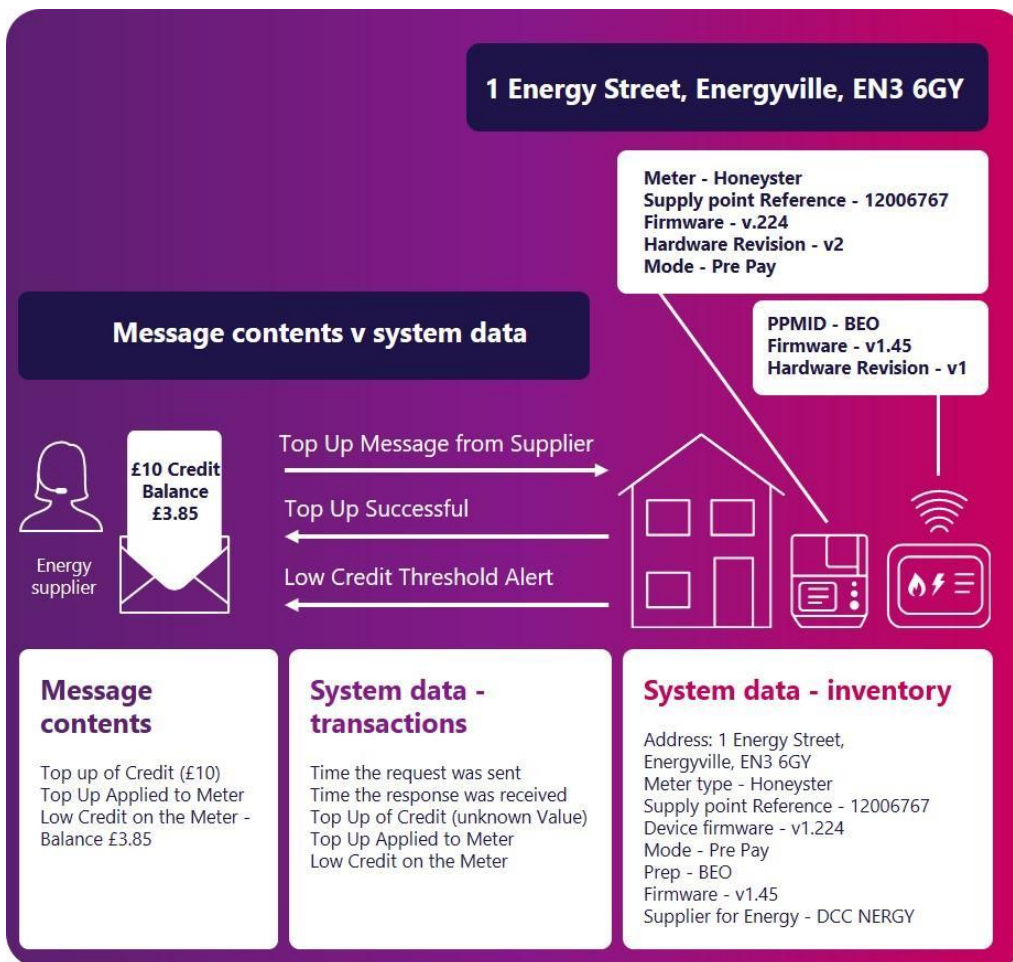


Image credit: [Data for Good](#), Data Communications Company

As of June 2021 there are [more than 12 million connected meters](#) installed and enrolled onto the DCC's nationwide secure network. Up to 470 million messages are securely encrypted and sent to and from homes and small businesses every month.¹² Increased access to this smart meter data infrastructure, including identifiers, standards, and the metadata to closed or shared data, could boost innovation in the sector that benefits not just energy customers, but Great Britain and beyond.

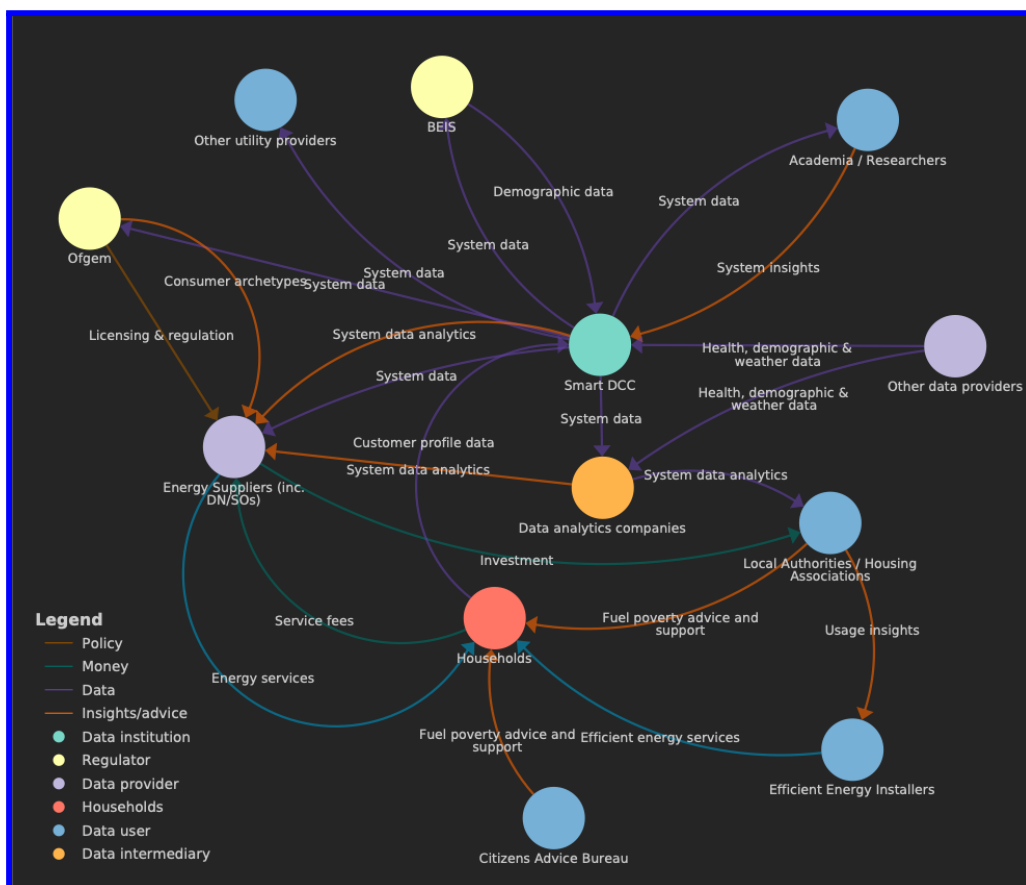
¹² Data Communications Company (2021), 'Data for good', https://www.smartdcc.co.uk/media/4699/21037-dcc-data-for-good-paper_v8-final.pdf

The smart meter data ecosystem

At a high level, the UK smart meter system is like a big federated database: the individual meters store and submit data, with access to that database being governed by DCC. The authorised users of that network build and maintain their own local caches of data, to support their businesses and customers. Given the relative complexity of the smart data ecosystem, it can be difficult to picture how data is shared between stakeholders.

At the ODI, we use an approach called data ecosystem mapping to help people understand how value is being created from data within a data ecosystem. A data ecosystem map identifies the key data stewards and users, the relationships between them and the different roles they play. In our initial collaboration with the DCC, we created a data ecosystem map which represents what the smart meter data ecosystem might look like when mapped against a specific use case, like addressing fuel poverty.

Potential DCC fuel poverty use case data ecosystem map.



[Interactive kumu map](#). N.B. this map is hypothetical and a simplified version of the potential smart meter system data ecosystem.

Some of the key interactions within this potential data ecosystem map include:

- DCC provides access to system data to a variety of approved organisations for monitoring and research purposes such as academia, researchers, regulators and government. The research community could provide valuable insights into the system back to DCC for this purpose, while the government and regulators keep an eye on this important piece of national data infrastructure.
- DCC provides access to system data to approved data intermediaries such as analytics companies that can combine this data with other available data and provide additional services and insights to key ecosystem stakeholders such as local authorities, housing associations and energy suppliers.
- These stakeholders could then use these advanced analytics, which include smart meter system data, to plan interventions in the forms of advice, insights or new services in order to combat fuel poverty in households currently in vulnerable circumstances.

Understanding the smart meter data ecosystem was an important first step in helping us to understand which stakeholders needed to be involved in future conversations about the smart meter system data exchange and what some of the barriers might be that prevent data from being accessed by the wider energy sector.

Workshop format and attendance

The ODI team ran two workshops, hosting participants from a variety of backgrounds such as potential data users (such as nonprofits and startups from both within and outside the energy sector), data providers (including representative energy sector trade bodies), industry bodies, consumer advocacy groups, thinktanks and government. The workshops were convened in an early exploratory manner to help better understand the potential for DCC's 'Data for good' system data exchange initiative, and were designed to not be exhaustive in scope.

The data users' workshop was convened to explore the high value socioeconomic uses of system data in the ecosystem, the current data infrastructure underpinning the ecosystem, and the opportunities to increase value through new partnerships, operating models or data infrastructure.

The public considerations workshop focussed on using a data ethics and privacy lens to align the key priorities in the market, understand the key risks and barriers to an initiative targeting these priorities and develop mitigation strategies.

In both workshops, UrbanTide gave an overview of their in-development solution, uSmartZero – funded through Modernising Energy Data Applications, a BEIS and Ofgem sponsored competition funded by UKRI. DCC is participating in the feasibility study as part of a consortium. The project is exploring how smart meter system data at an aggregated level, when combined with other data sets, can help to identify households in or at a risk of fuel poverty.

Participants answered a series of questions and were asked to rank or respond using the Sli.do voting system. This was followed by discussion enabling participants to provide more detail to their answers.

Use cases for smart meter system data

As a precursor to the work with the ODI, DCC has been exploring potential use cases for smart meter system data. Working with the Connected Places Catapult and as a participant to the Smart Meter Public Interest Advisory Group, a number of use cases have arisen where smart meter system data could provide significant value.

In 2020, DCC reviewed the Innovate UK Local Energy Data Innovation project, led by Regen SW as a further source of [use cases](#) that could be underpinned by improved access to smart meter system data.¹³

These combined sources of use cases covered a number of themes including:

- **Achieving net zero and local decarbonisation**
- Addressing **consumer vulnerability and fuel poverty**
- Optimising efficiency and reducing costs around **domestic energy and bills**
- Improving the infrastructure for **electric vehicles (EV)**
- Optimising and decarbonising **energy generation**
- Optimising **energy networks**
- Improving **energy services and their supply arrangements**
- Improving **flexibility services**
- **Joining up utilities** to find cross-sector efficiency between energy and water
- Better understanding the links between energy and **public health** and improving public health outcomes

Across both workshops achieving net zero and local decarbonisation, addressing consumer vulnerability and fuel poverty and optimising and decarbonising energy generation came out as the top three choices. This clearly communicates that stakeholders across the energy data ecosystem are aligned on the major priorities for the energy sector – switching to renewable energy and addressing financial vulnerability.

Other use cases chosen in the top five were focused on EV and domestic energy in the data users' workshop, and domestic energy and public health in the public considerations workshop.

The participants were also asked for additional use cases they felt were not included in the themes presented. These included:

- improving efficiency and decarbonisation specifically in heat provision and heat pump adoption
- targeting retrofitting in private rental sector (beyond current work in social housing)

¹³ Regen (2020), "Local Energy Data Innovation", <https://www.regen.co.uk/publications/local-energy-data-innovation/>

- optimising the energy system for the agriculture industry
- provide data for policy planning and measuring the impact of major events (such as a pandemic) on energy use
- informing decarbonisation strategies for commercial premises.

Key stakeholders

Participants were asked to identify the key ecosystem stakeholders that needed to be involved in the 'Data for good' programme in order to deliver on the prioritised use cases. Answers fell broadly into three categories: primary energy sector stakeholders, secondary energy sector stakeholders and other stakeholders.

Primary energy sector stakeholders are those delivering energy and energy related services through the entire supply chain. This included energy producers, distributors and organisations providing additional services. This also included regulators like Ofgem, industry bodies like the Energy Savings Trust and government organisations like BEIS. This also included energy consumers themselves.

Secondary energy sector stakeholders are those connected more loosely to the energy sector but have a direct impact. This included local authorities, consumer groups, housing providers and the construction sector, and universities.

Finally, there were a few organisations that can be seen as removed from the energy sector but with the potential to play a big role in the wider smart meter system data ecosystem. This included data focussed organisations such as data intermediaries with experience in other similar sectors, especially the open banking ecosystem. Civil society organisations (CSOs) connected to the outcomes of these use case themes and the Information Commissioner's Office (ICO) were also mentioned.

Sustainable data access

The financial sustainability of data access ensures that the benefits from that access continue to flow to beneficiaries. Our research on [sustainable data access](#) has shown how important this is, and the various ways organisations usually manage this. DCC is proposing to maximise data access at the lowest possible cost required to maintain financial sustainability. Data will be provided free where possible.

In our data users' workshop we sought feedback about some of these methods:

- Membership fees
- Subscription fees
- Usage fees
- Free + premium/tiered access
- Free + 'over-the-top' services

Providing a 'tiered freemium access' model was a popular option, with most respondents believing that there should be some free access, and the ability to either

price discriminate based on the service requested (such as premium APIs) or the organisation requesting access (such as free for nonprofits and a progressive fee system for the private sector).

Technical infrastructure

Finally, data users were asked what types of technical infrastructure would help enable innovation, trust and value in the smart meter system data ecosystem.

Responses included:

- Open licences (such as Creative Commons)
- Well-documented APIs
- Developer sandboxes
- A community of users
- A query tool
- Codes of practice
- Metadata
- Standardised consent manager

Many of these types of infrastructure have been successfully used in other data access initiatives such as [open banking](#), including API specifications, security profiles and other guidelines.¹⁴ Existing initiatives such as open banking and Open Energy could provide a model for how DCC may want to implement similar standards across ‘Data for good’.

¹⁴ Open Banking (2019), ‘Welcome to the Open Banking Standard’, <https://standards.openbanking.org.uk/>

Barriers, risks and mitigations for smart meter system data

All data access initiatives come with inherent risks. Data should be as open as possible, but to do so without the proper safeguards to security and privacy to mitigate those risks can harm people and lead to a loss of trust in data sharing.

The main risks and concerns voiced by the workshop participants echoed many that rightly coincide with other similar initiatives. Concerns included that privacy may not be sufficient or data may be de-anonymised; that data may be used inappropriately such as with discriminatory services; and typical fears around security and accuracy.

Some important risks and barriers that surfaced outside of typical fears focused primarily on digital exclusion. Digital literacy and understanding consent are critical components to ensure equitable benefits from a data access initiative. There were also concerns that people without smart meters would not accrue benefits.

Regarding the issue of fuel poverty there were concerns that in focusing overly on the energy sector or 'fuel poverty', a siloing of data or effort could occur that doesn't address the fact that poverty is not relegated to just a single sector of the economy.

Building trust: mitigating risks and equitable benefits

There are risks around ensuring that the benefits from this initiative are realised and are equitably distributed, and participants identified several ways to mitigate these risks. These activities help ensure [trustworthy data access](#) by focusing on consent, redress and clear, active communication.

As in all data access initiatives, consent is critical to building a trustworthy data ecosystem. Consent can never be fully informed, for reasons including the difficulty in anticipating all potential uses of data, but clearly communicating the consent mechanisms, intended benefits of the initiative, the risks and how to access redress is best practice for data governance. Participants also noted that public engagement should be represented by a diverse group to ensure equitable support.

Participants felt that data users must play an active role in demonstrating to consumers that their use of data aims to provide a public benefit, as consumers are likely to be most concerned with why data about them is being shared. This aligns with our previous research on the topic, '[About Data About Us](#)' produced with the

RSA and Luminata, which found that ‘people are happy to share data about them for societal benefits, but want to understand and have a say in what it is used for.’¹⁵

Participants also suggested that one of the best ways to build trust was to prove the impact with a small pilot project, possibly in a single locality and scale up from there. This approach is being deployed with Open Energy, which may prove instructive.

Other means of ensuring trust in the system included defining metrics and monitoring them against audits, using widely accepted standards, citizens assemblies and an ethics board.

¹⁵ Open Data Institute (2019), ‘Data About Us: ‘the people’ know and care more than they are given credit for’, <https://theodi.org/article/data-about-us-the-people-know-and-care-more-than-they-are-given-credit-for/>

Recommendations

It takes a lot of work to create an open, trustworthy data ecosystem and DCC is well positioned to begin that journey with the system data exchange initiative described in the 'Data for good' discussion paper. The smart meter data ecosystem is poised for such a data access initiative, with interest from end users, data users and providers, as well as similar trends across the energy sector and beyond. Broadly speaking we believe that DCC identifying as a data institution and the 'Data for good' initiative as a data access initiative will help both align activities and priorities, as well as help deliver on intended outcomes.

We recommend the following key steps:

- Convene an advisory group of different industry representatives to develop a programme of activity for further discovery and implementation, in a similar way to the Open Energy Advisory Groups led by Icebreaker One
 - Seek buy-in from the industry's main service providers, such as energy suppliers and distribution network operators (DNOs), to ensure a smooth implementation and achievement of goals
 - Confer with key representatives from other data initiatives in the communications, water, and banking sectors to learn best practice and where pitfalls may exist. Ensure alignment as much as possible with the work done by the BEIS Smart Data team and the Open Energy initiative.
 - Run workshops with this group focussing on data ethics, sustainable data access, building trust, technical infrastructure and other key themes that have surfaced throughout the initial work.
- Consider how to incorporate the views of the public and customers in governance and access, given the 'public good' designation of the data infrastructure. Participants clearly outlined the need for public transparency and outreach regarding consent, risks, benefits and other aspects. The [INSIGHT data institution](#) found success in having a robust [patient and public involvement programme](#).
- Explore ways to stimulate and encourage further work on specific use cases such as what is being done with uSmartZero. Data users and consumer and civil society organisations showed clearly that net zero, fuel poverty and improved energy services are key areas to develop these use cases. This might involve engaging in discovery projects, delivering hackdays or exploring options for stimulus funding for small projects.
- In the finance sector, open banking has already demonstrated that a standardised set of APIs, licensing and approach to managing access and consent can help to drive innovation in a way that is good for consumers. Working with industry stakeholders and data users to develop some of the technical infrastructure outlined in the findings, such as open standards and APIs, ensuring alignment with the Open Energy standards.
- Promote and sponsor further engagement and research to understand the data ecosystem better, such as an appropriate [model for data access](#), such as a [data](#) institution for data that cannot be openly published. Ensure that the

infrastructure and financial costs for data users to meet the necessary technical, security and audit requirements for access are not prohibitive.

- Ensure that the sustainability of the funding model is proportionate to firm size, stimulating innovation from smaller organisations, nonprofits and academia, and not restrictive to only large private sector organisations and government.
- Following the Energy Data Task Force recommendation of data being ‘presumed open’, publish data and information openly wherever possible, such as about the Smart Energy Code, the different types of smart meters, and the progress of the initiative and national rollout itself. This will help engender trust in the overall programme.

In addition to our recommendations for DCC, we believe that the wider ecosystem of stakeholders, such as data users and providers, civil society, government and regulators have a role to play. Our recommendations for these stakeholders are as follows:

Data users

- Engage with DCC and other data providers in the energy sector to help them **identify and prioritise use cases** for smart meter system data.
- Work with DCC to inform the creation of a model for **data access that is both sustainable and equitable**.
- When using smart meter system data, make sure to **communicate the public benefits** of this data use as openly as possible.

Data providers (including energy suppliers and DNOs)

- Consider how the data collected could be useful in addressing social, economic and environmental challenges. Work with ecosystem partners to **develop valuable use cases** using this data.
- Explore how to **make this data more available** through sustainable and trustworthy data access models.

Civil society

- Work with DCC and other smart meter ecosystem stakeholders to **evaluate the access, use and sharing of smart meter system data through an ethics lens**. Help ensure that value is flowing through the ecosystem equitably, especially towards people in vulnerable situations, and that risks are mitigated as much as possible.
- Work with the public to **identify common challenges that could be addressed through improved access to smart meter data**.

Government and regulators

- Work with DCC and other energy stakeholders to **ensure that regulations support access to smart meter data** where appropriate, including mechanisms for redress, and that this is communicated to clearly to the public.
- As a longer term objective, **consider making funding available to support data users in addressing social, economic and environmental challenges** using smart meter data, through challenges and innovation programmes.

Appendix 1: The value of sharing data

Businesses can create value by using third-party data to develop new products and services. Our research has shown that they can unlock additional value by sharing data they have collected.¹⁶ Increasing access to data held in the private sector has proven benefits to businesses in many ways, including:

- [Improving supply chain efficiency](#)¹⁷
- [Increasing market reach](#)¹⁸
- Facilitating [benchmarking and market insights](#)¹⁹
- [Building trust](#)²⁰
- Improving efficiencies through [open innovation](#)²¹, including within [regulated markets](#)²²
- Collaborating to [address sector-wide challenges](#) such as those found in the energy sector²³

Our research with the Bennett Institute at the University of Cambridge on [the value of data](#) has shown that despite increasing access to data being an important way to unlock its wider economic and social benefits, there are various market failures around data and the data economy that mean data sharing initiatives will not necessarily emerge on their own.²⁴

¹⁶ Open Data Institute (2020), 'Report: Sharing data to create value in the private sector', <https://theodi.org/article/report-sharing-data-to-create-value-in-the-private-sector/>

¹⁷ Open Data Institute (2020), 'Case study: The value of sharing data in supply chain optimisation', <https://theodi.org/article/case-study-the-value-of-sharing-data-in-supply-chain-optimisation/>

¹⁸ Open Data Institute (2020), 'Case study: The value of sharing data for improving market reach', <https://theodi.org/article/case-study-the-value-of-sharing-data-for-improving-market-reach/>

¹⁹ Open Data Institute (2020), 'Case study: The value of sharing data for benchmarking and insights', <https://theodi.org/article/case-study-the-value-of-sharing-data-for-benchmarking-and-insights/>

²⁰ Open Data Institute (2020), 'Case study: The value of sharing data to build trust', <https://theodi.org/article/case-study-the-value-of-sharing-data-to-build-trust/>

²¹ Open Data Institute (2020), 'Case study: The value of sharing data to drive open innovation', <https://theodi.org/article/case-study-the-value-of-sharing-data-to-drive-open-innovation/>

²² Open Data Institute (2020), 'Case study: The value of sharing data in regulated environments', <https://theodi.org/article/case-study-the-value-of-sharing-data-in-regulated-environments/>

²³ Open Data Institute (2020), 'Case study: The value of sharing data to address sector challenges', <https://theodi.org/article/case-study-the-value-of-sharing-data-to-address-sector-challenges/>

²⁴ Open Data Institute & Nuffield Foundation (2020), 'Valuing data: foundations for data policy', <https://www.nuffieldfoundation.org/project/valuing-data-foundations-for-data-policy>

Appendix 2: Data access initiatives in other sectors

Currently under the banner of [Smart Data](#), in 2019, a data portability strategy was published as part of the UK Industrial Strategy. This proposed that greater access to data would foster innovation to improve consumer outcomes by:

- accelerating the development of innovative data-driven services in consumer markets
- using data and technology to help vulnerable consumers
- ensuring consumers and their data are protected.²⁵

Smart Data, data portability and data access initiatives, including the work being done in the energy sector by BEIS, Ofgem and Icebreaker One, include initiatives to increase access to data in a variety of sectors:

- [Open banking](#) allows retail banking customers to share account and transaction data with trusted partners. When securely shared, the data can be used to build useful services such as account aggregation and personal financial management.²⁶
- The Financial Conduct Authority (FCA) is looking to expand this to other financial data sources, including savings, investments, mortgages and pensions under the banner of [open finance](#).²⁷ Of these the [Pensions Dashboard](#) being led by the Money and Pensions Service (MaPS) is the most mature.²⁸
- [Open communications](#) would enable people and businesses to share data about their use of telecoms services, held by their providers, with third parties who could help them navigate the market and get a better deal.²⁹ Our first look into [open APIs in the telecoms industry](#) demonstrated that there is

²⁵ Department for Business, Energy and Industrial Strategy (2019), 'Smart Data: Putting consumers in control of their data and enabling innovation', https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/808272/Smart-Data-Consultation.pdf

²⁶ Open Data Institute (2019), 'How far Open Banking has come: our five takeaways', <https://theodi.org/article/how-far-open-banking-has-come-our-five-takeaways>

²⁷ Open Data Institute (2020), 'The Financial Conduct Authority's call for input on open finance: ODI response', <https://theodi.org/article/the-financial-conduct-authoritys-call-for-input-on-open-finance-odi-response/>

²⁸ Pensions Dashboard Programme (2021), 'UK Pensions Dashboard', <https://www.pensionsdashboardsprogramme.org.uk/>

²⁹ Open Data Institute (2020), 'Open Communications: An open trustworthy data ecosystem for the telecommunications sector', <https://theodi.org/article/open-communications-an-open-trustworthy-data-ecosystem-for-the-telecommunications-sector-report/>

potential to enable new products and services that meet the needs of a wide set of users.³⁰

- Though not a formal Smart Data initiative, the [OpenActive](#) programme from Sport England and the ODI is currently helping the sports and leisure sector adopt data standards and publish open data with the hope of getting more people in England active.
- Similarly, there have been initiatives in the [transport](#)³¹ and [health](#)³² sectors to improve access to data about transport users and patients in trustworthy and secure ways.

³⁰ Projects by IF (2018), 'Open APIs in the Telecoms Industry', <https://openapis.projectsbyif.com/>

³¹ Open Data Institute (2018), "Personal data in transport: exploring a framework for the future (report)", <https://theodi.org/article/personal-data-in-transport-exploring-a-framework-for-the-future-report/>

³² Open Data Institute (2020), "Applying new models of data stewardship to health and care data [report]", <https://theodi.org/article/applying-new-models-of-data-stewardship-to-health-and-care-data-report/>

Appendix 3: Additional resources

- The [Data Landscape Playbook](#), which helps organisations involved in [data access initiatives](#) – collaborative programmes that focus on addressing social, environmental or economic challenges by improving access to data – to prioritise and plan their initial activities to design or strengthen data infrastructure
- The [Trustworthy Data Stewardship Guidebook](#) has been created to help organisations assess, build and demonstrate both their trust and their trustworthiness
- The [Sustainable Data Access Workbook](#) which supports organisations that steward data to make better decisions about their revenue models
- [Mapping data ecosystems](#) methodology and [tool](#) – a tool for documenting and mapping data ecosystems
- [Open standards for the UK energy sector](#)
- [Anonymisation and open data: An introduction to managing the risk of re-identification](#)
- [Open Standards for Data](#) - This guidebook helps people and organisations create, develop and adopt open standards for data.
- [Data sharing in the private sector](#) - includes case studies on businesses gaining value from increasing access to data they hold and a [summary report](#)
- [The Value of Data report](#) - exploring ideas around how to effectively and ethically tap into the value of data