Making a positive difference
for energy consumers

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About Ofgem

1. Ofgem is a non-ministerial government department and an independent National Regulatory Authority, recognised by EU Directives. Our principal objective when carrying out our functions is to protect the interests of existing and future electricity and gas consumers. We do this in a variety of ways including:

- promoting value for money;
- promoting security of supply and sustainability, for present and future generations of consumers, domestic and industrial users;
- the supervision and development of markets and competition; and
- regulation and the delivery of government schemes.

2. We work effectively with, but are independent of, government, the energy industry and other stakeholders within a legal framework determined by the UK government and the European Union

3. Our response focuses on the questions where we feel we can add the most value. We will be pleased to provide further information if asked.

Question 1. To what extent do you agree with the following statement: Taken as a whole, the missions and pillars of the National Data Strategy focus on the right priorities.

Please explain your answer here and, if applicable, identify any areas you think the government should explore in further depth.

4. Answer Selected:

- Somewhat agree

5. We are supportive of the spirit and intentions of the National Data Strategy and consider this to be work of crucial importance to the future of the country and to helping solve global challenges, such as climate change. We have two priority comments that we believe will refine the National Data Strategy.

6. Data is an important modern asset, but the wider digitalisation of products and services offered by government and/or markets captures a more full range of the opportunities and challenges faced by the nation and world. Beyond progressing the treatment of data as an asset, the goals of this strategy implied that it is seeking to ensure that the country has these services that allow data to be put to best use and that these services are coordinated. However, we recommend that the National Data Strategy be more explicit in its recognition of the importance of this wider overall challenge of digitalisation.

7. Secondly, the National Data Strategy presents an important opportunity to clarify the underlying drivers for why digitalisation and making better use of data are important. With an improved understanding, stakeholders will be better able to make decisions about how markets and public services are best designed and operated.

8. We see a particular opportunity on this theme through gaining a better understanding of the relationship between data and natural monopolies in society. Technology is transforming our economic and social landscape and is evolving where the naturally monopolistic products and services reside in our economy.

9. Examples we are aware of include the creation and availability of data that describes the status and operations of our national energy system. This is a case where an existing monopoly is growing in its scope. We are also aware of potential new monopolies, such as relating to the services that set standards for the practices and technology for the interoperation of data between regulated entities. Looking inwards at government, we recognise that there are numerous sources of data that it is uniquely positioned to use and/or make more open and available and that this is likely to exhibit some stronglyoverlapping challenges and opportunities as do marketplace monopolies.

10. Of particular importance to monopolies is in relation to their responsibilities and expectations on them for meeting different stakeholder groups' interests (private, social, Public Good). We anticipate that understanding how data supply chains take best account of this is important to the overall design decisions for the UK digital ecosystem, as this is underpinned by numerous monopolistic products and services that provide the creation of and access to unique data assets. The National Data Strategy can help by ensuring we gain greater clarity on how to make the best decisions on topics such as this example. The kinds of Decisions this will influence will be on matters such as when it is or is not appropriate for services to be required to comply with data standards, or when it is better to allow market forces to decide on practices.

Question 2. We are interested in examples of how data was or should have been used to deliver public benefits during the coronavirus (COVID-19) crisis, beyond its use directly in health and social care. Please give any examples that you can, including what, if anything, central government could do to build or develop them further.

11. In April 2020, Ofgem decided to issue a new Request For Information (RFI) designed to assess the impact of COVID-19 on the financial position of energy suppliers and customers, focusing on those already in vulnerable circumstances. We requested information on a weekly basis from all active domestic and non-domestic energy suppliers, which translates to a data set of around 12,000 data points being updated and analysed every week.

12. Among other metrics, the RFI includes information on financial relief and payment holidays provided by energy suppliers to customers, direct debit cancellations and reductions, Pre-Payment Metter (PPM) self-disconnections and emergency credit. This information has helped us advise the Government's response to the pandemic and our application of our regulatory powers, alleviating the impact on industry and customers. Jointly with our quarterly Social Obligations Reporting data, the RFI also informed our recent decision[1] to strengthen protections for customers who are struggling to pay their energy bills this winter.

Question 5. Which sectors have the most to gain from better data availability? Please choose all relevant options, below.

[1] https://www.ofgem.gov.uk/publications-and-updates/ofgem-strengthens-protections-customers-struggling-energy-bills-winter

13. Given Ofgem's role, we are not holding a position on which parts of the economy stand to gain the most from better data availability, but we do have comments.

14. In our experience, the benefits of data are greatest when different data are joined together for services and analysis that elicit insights that are otherwise not available. We recommend that the National Data Strategy does not place undue focus on traditional groupings of economic sectors to structure digitalisation priorities as our view is that significant benefit will be gained by using data to integrate activities and economic sectors.

15. Specifically, our experiences are that there are great potential opportunities through the coordination of data activities across the energy and transport sectors (energy system and electric vehicle charge point digital infrastructure), across the energy and water sector (network asset utilisation and market coupling), across the energy and health sectors (applying the predictive power of data science to use energy data to gain insight about peoples' health), and so on.

16. To support this, through Ofgem's creation of data and digitalisation regulations for energy, we are ensuring data is treated as "presumed open" (ie open to all by default, unless the data custodian can evidence a reason why not). We have planned for cross-sector needs and so have designed these regulations to be readily re-usable and to be principles-based to enhance flexibility in their application[2,3]. This will better enable the joining of data across traditionally separate economic sectors. At a high level, you have already cited our work relating to this in the National Data Strategy consultation, paragraph 6.1.3.

Question 6. What role do you think central government should have in enabling better availability of data across the wider economy?

17. Government and its devolved bodies need to play a leadership and facilitative role enabling data availability across the economy. There is also a role for government and it devolved bodies to practice what we preach, meaning for our own use and sharing of data as well as our digitalisation of services to meet our own expectations on how we require markets to act.

[2] Data Best Practice guidance https://www.ofgem.gov.uk/publications-and-updates/early-draft-data-best-practice-guidance-available
[3] Digitalisation Strategy and Action Plan guidance https://www.ofgem.gov.uk/publications-and-updates/early-draft-digitalisation-strategy-and-action-plan-guidance-available

18. Central government can use a range of methods to influence market behaviours: from using its position to convene stakeholders to improve communication and coordination; through ensuring incentives are in place for innovation, particularly where market forces are limited (such as where data monopolies exist); including taking data and digitalisation needs into account through any institutional reforms and market design changes and; extending to directing action via primary legislation, regulation and helping update industry codes.

19. Effective data governance frameworks are complex and extend across entire supply chains for services and products, at times straddling markets and public body activities. Central government's role should be one that reduces barriers and simplifies the process of sharing data across markets and between existing market boundaries.

20. For example, improving the availability of data is critical to the energy sector. We are facilitating progress of this by collaborating with central government and working in partnership with the energy sector through our programme, Modernising Energy Data (MED). We are creating an environment where the complex mix of private and social interests in data benefit from a shared understanding and that there is coordinated delivery of benefits to energy consumers. This includes the creation of regulations, see paragraph 10, and advising innovation initiatives, such as the Modernising Energy Data Access (MEDA)[4] competition and the Modernising Energy Data Applications (MEDApps)[5] competition, both hosted by Innovate UK. These are accelerating data and digitalisation innovation in parts of the economy that are strongly characterised by being serviced through regulated monopolies that don't benefit from direct market pressure to modernise.

Question 6a. How should this role vary across sectors and applications?

21. In our experience, best practices with data (and therefore having implications the role of government and its devolved bodies) is not opitimally characterised using the dimension of sectors. There may be differences in roles taken for sectors, but we expect that the underlying drivers for these differences will be best explained by fundamental characteristics of markets, products and services.

[4] Modernising Energy Data Access competition https://www.ofgem.gov.uk/publications-and-updates/19m-modernising-energy-data-access-competition
[5] Modernising Energy Data Applications competition https://www.ofgem.gov.uk/publications-and-updates/launch-modernising-energy-data-applications-medapps-competition

22. For example, government might take a different role where the economic nature of products or services is characterised by low barriers to entry for competition, or by social preferences, such as a desire to constrain markets in preference of centrally assuring the protection of all consumers/citizens' interests (eg our National Health Service). In cases where market forces are not expected to be forthcoming, government is likely to have a more involved role. We gave an example of this in paragraph 15, through our partnership with Innovate UK and our MEDA competition, that is delivering the interoperation of data between regulated monopolistic service providers that deliver 'latterally adjacent' stages vertically along and horizontally across the energy market. This is solving the challenge of having multiple monopoly organisations offer a coordinated overall consumer service, rather than just meeting the direct services expectations on their own organisation. Markets with low barriers to entry for competitors are not likely to require this level of government and regulator intervention.

23. We are aware that digitalisation may itself lead to the creation of new monopolies in the economy. We see risks of concentration of market power, such as with respect to consumer data or digital infrastructure services, that might become an emergent property of data exchanges within and between markets. Government and regulatory regimes will need to assess these risks and take them into account in policies and regulation. In particular, we expect a need for greater data exchange between the energy, transport, water, telecoms and building services sectors. These exchanges are becoming increasingly complex and span a multiplicity of government departments' responsibilities. Without care, emerging markets are open to abuse and new monopolies might miss opportunities to best service consumers' needs.

24. With the above in mind government and its devolved bodies should seek to facilitate the creation of shared visions for markets and public services and they should ensure that different parts of government work collaboratively to coordinate policies and regulation.

Question 7. To what extent do you agree with the following statement: The government has a role in supporting data foundations in the wider economy.

- Somewhat agree

25. We agree with the spirit and intention of the National Data Strategy definition of data foundations and we strongly agree that government has a role supporting data foundations. However, we recommend the focus for the data foundations are adapted to get the most from this effort.

26. Data can be a very broad concept. The benefits of certain data will be realised without its complying with standardisation formats and without its being interoperable, either because particular data has limited potential to be valuable or because the way in which it is used does not lead to the users of the data requiring any particular standards to be met. For some data the cost of improving it to meet non-relevant standards will be greater than the potential benefits. It must be taken into consideration that it can be challenging to determine the sum total value of any given data asset, but equally the burden of improving all data to common standards will be a monumental taks and is unlikely to be efficient overall.

27. In view of these considerations, we recommend placing greater emphasis on servicing the needs of the current and future users of data. This means more focus on the part of the data foundations definition that ask for data to be 'fit for purpose', without being as prescriptive in this definition about what it looks like of data to be 'fit for purpose'. Doing this will allow for delivery to place more importance on the cultural approach to how data us used, rather than on technical governance and technology.

28. By making this change in emphasis, this will also better position government efforts and its role facilitating better use of data, while allowing markets and public service providers to determine the exact solutions.

Question 10. How can the UK's data protection framework remain fit for purpose in an increasingly digital and data driven age?

29. The key to ensuring that the framework supports a future data-driven economy is ensuring that it is as efficient and effective as possible, otherwise technological advances will leave the framework behind. It must recognise the speed of change and delivery within a digital environment, which is very different from the paper-based environment from which UK data protection first arose. Heavily time consuming aspects of compliance that arise from the current legislation and which place burden on data controllers, such as those subject access requests which are clearly 'fishing exercises', could be tightened up so that resource could instead focus on supporting new ways of digital working and sharing data.

30. A framework which places much greater emphasis upon, and a regulator that strongly enforces, efficient and effective Privacy By Design and Data Protection Impact Assessments is most likely to ensure that the rights of individuals are maintained when personal data is processed in a faster paced environment. In

future, the Information Commissioner's Office is likely to need to match speed of technological change and delivery with a higher speed of publication of advice, guidance and tools, and can help focus time and effort towards supporting future digital requirements by helping to end the prevalence of reinvention of the wheel via greater sector-specific support (Recent ICO guidance on use of Artificial Intelligence and eliminating bias being a welcome example of what is needed) Similarly, there is a risk that data controllers err on the side of caution and prefer not to share data if they do not have access to support and guidance to encourage openness.

31. In terms of international data sharing it is, of course, crucial that UK data protection legislation and supporting framework post-Brexit integrates well with the European equivalents and also worldwide. And finally, regular reviews of the framework involving a wide range of stakeholders, leading to improvements or updates to maintain relevancy and effectiveness, would be welcomed.

Question 12. We have identified five broad areas of work as part of our mission for enabling better use of data across government:

- Quality, availability and access
- Standards and assurance
- Capability, leadership and culture
- Accountability and productivity
- Ethics and public trust

We want to hear your views on any actions you think will have the biggest impact for transforming government's use of data.

32. Ofgem is approaching these areas of work through an inclusive straetgic programme of work, our Modernising Energy Data (MED) programme, this is being delivered in collaboration with government and is deliberately concerned both with energy market use of data and government's use of energy data.

33. We have learned that communication, coordination and a partnership stance with the sector is key to success. This may be implicit in your theme of 'Capability, leadership and culture', but we consider it of sufficient importance that coordination warrants being called out explicitly as part of your mission.

34. An example of coordination activities is ensuring government's 'language' with data is aligned with that of the language of the marketplace. By this, we refer to the

adoption of common data dictionaries, catalogues, industry reference data and shared data models extending to a full shared data ontology with the market.

35. There are benefits to sharing language, as this eases communication between government and markets, but there are additional direct benefits through its creating opportunities to share the common challenges and solutions between government and markets to make the best use of data and achieving digitalisation, this will avoid duplication of work and in particular de-risk the making of government and market services for data interoperable-by-design.

Question 13. The Data Standards Authority is working with a range of public sector and external organisations to create a pipeline of data standards and standard practices that should be adopted.

We welcome your views on standards that should be prioritised, building on the standards which have already been recommended.

36. The need for standards to support data work varies depending on particular data and its applications. A particular point of interest for us is on deciding between adopting principles-based data standards or explicit standards for how data is used. This challenge is one faced by other subject matters, other than data. It is not unique.

37. Principles-based data standards allow for greater flexibility, this can be of great benefit when requirements are less certain or might reasonably be expected to change over time, however, success for this approach relies on their being effective communication between stakeholders.

38. Explicit, more prescriptive, data standards offer greater clarity about requirements, which can allow for improved data standardisation and clearer investment decision, however in this case it is critical that the standards are effective at meeting stakeholders' actual needs or else they can lead to inefficient investment and/or create barriers to progress that are slow to change.

39. These two methods are not mutually exclusive. We recommend that data standards are adopted and developed using agreed principles and that where it is evidenced to be beneficial explicit standards that align with those principles are put in place.

40. In general, where existing data standards already exist, these should be prioritised for adoption and wherever possible focus should be placed on ensuring that data

standards result in data that interoperates between markets. A prime reason driving this need is the challenge of Net Zero, where many markets need to coordinate to deliver a single societal goal, while also enhancing the performance of the economy and delivering benefits to consumers and citizens.

41. Through the Modernising Energy Data (MED) programme and in collaboration with BEIS and Innovate UK, Ofgem has created a principles-based standard for 'data best practice' and is doing the equivalent for planning digitalisation through our guidance on how we expect data monopolies to publish their 'Digitalisation Strategy and Action Plan'. We have prioritised making these principles re-usable across sectors and not specific to energy. We have developed them in partnership with the sector and with organisations from other economic sectors. Drafts of these two sets of guidance are available publicly[6,7]. We believe that these standards provide both flexibility and robust expectations for the market, that they lend themselves to adoption by other parts of government and that following that standards will be beneficial to government's own services too.

Question 14. What responsibilities and requirements should be placed on virtual or physical data infrastructure service providers to provide data security, continuity and resilience of service supply?

42. They should be encouraged to state which security standards their service complies with.

Question 14a. How do clients assess the robustness of security protocols when choosing data infrastructure services? How do they ensure that providers are keeping up with those protocols during their contract?

43. Clients should be encouraged to examine which security standards their service complies with and to choose carefully which protocol they use to access the service.

Question 15. Demand for external data storage and processing services is growing. In order to maintain high standards of security and resilience for the infrastructure on which data use relies, what should be the respective roles of government and data service providers, their supply chain and their clients?

[6] Data Best Practice guidance https://www.ofgem.gov.uk/publications-and-updates/early-draft-data-best-practice-guidance-available
[7] Digitalisation Strategy and Action Plan guidance https://www.ofgem.gov.uk/publications-and-updates/early-draft-digitalisation-strategy-and-action-plan-guidance-available

44. It is the role of government to ensure that there are appropriate security standards available against which data service providers can be independently assessed and certified. NCSC has published cloud security principles but none of the most widely used cloud security standards test against all principles, neither are they clear on what types of attack they are designed to protect against. HMG could run a competition to develop a cloud security standard designed to protect against moderately sophisticated and/or sophisticated cyber-attacks (NCSC has a definition of these terms). It acted in this way to fill a gap in the market through the development of Cyber Essentials. A good standard would take into account security issues arising from the use of third parties. It would still be the responsibility of clients to take their security needs into account when selecting a data services provider.

Question 16. What are the most important risk factors in managing the security and resilience of the infrastructure on which data use relies?

45. The consultation lists some of the risk factors but what matters is how the management of these is made visible to the client. For example, geographic location might matter to some clients but not to others. The solution is to capture the risk factors in the security standards and give clients access to information on how they are managed.

Question 17. To what extent do you agree with the following statement: The government should play a greater role in ensuring that data use does not negatively contribute to carbon usage?

Please explain your answer here. If applicable, please indicate how the government can effectively ensure that data does not negatively contribute to carbon usage.

46. Answer Selected:
    - Strongly agrees

47. Meeting the net zero target is a key priority for Ofgem and the country has set a legal obligation to achieve this target. Data applications are and will continue to enable the avoidance of a great many carbon emissions. In terms of the risks of negative contributions, we caution that achieving net zero requires that all carbon emissions be taken into account and so that government has a responsibility to ensure carbon emissions associated with services such as data centres and hardware are accounted for in its work across policies. We also see an important

challenge and role for government in terms of ensuring carbon emissions associated with data services across international boundaries are appropriately taken into account.