

Access to half-hourly electricity data for settlement purposes

Consultation

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Contact: Jenny Banks, Senior Policy Manager,
Anna Stacey, Head of Settlement Reform

Team: Settlement Reform

Tel: 020 7901 7000

Email: Half-HourlySettlement@Ofgem.gov.uk


Overview:

Energy suppliers purchase electricity based on estimates of what they expect their customers to use in each half-hour period. The difference between volumes of energy suppliers purchase and what their customers consume has to be measured and the cost of any imbalances attributed to the correct parties. This process is known as settlement.

Market-wide half-hourly settlement can support the decarbonisation of the UK's electricity supply by incentivising a move towards a smarter, more flexible energy system. It is expected to lead to significant benefits for consumers and the energy system as a whole through exposing energy suppliers to the true cost of supply and therefore incentivising them to help their customers shift their consumption to times when electricity is cheaper to generate or transport.

Half-hourly settlement requires half-hourly electricity consumption data from smart or advanced meters to be retrieved and processed for settlement purposes. Rules on access to half-hourly data from domestic and microbusiness consumers were established through the Data Access and Privacy Framework in 2013. Currently, domestic consumers' half-hourly data can only be accessed for settlement if they have given consent. Suppliers can access half-hourly data from microbusinesses for settlement unless they have opted out. We are considering whether to change the rules specifically in relation to access to half-hourly electricity data for settlement purposes to support the successful implementation of half-hourly settlement.

This consultation sets out the options we are considering and our preliminary assessment of each. We are seeking responses from a broad range of stakeholders, including consumer groups, suppliers, supplier agents and innovators. We will carefully



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consider all consultation responses and are working towards publishing a decision by the end of 2018. We have published a Data Protection Impact Assessment¹ alongside this document to assess the privacy implications of all the options.

¹ <https://ofgem.gov.uk/publications-and-updates/consultation-access-half-hourly-electricity-data-settlement-purposes>

Context

Market-wide half-hourly settlement is enabled by the rollout of smart metering, and builds on recent changes to facilitate cost-effective half-hourly settlement (HHS) for domestic and smaller non-domestic consumers on an elective basis.

The move to market-wide HHS is part of a wider set of reforms looking to facilitate the energy system transition and to improve outcomes for consumers. In July 2017, Ofgem and government published a plan to move towards a smarter, more flexible energy system including moving to market-wide HHS.² On the retail side, our Switching Programme is looking to deliver faster, more reliable switching.

Ofgem launched a Significant Code Review in July 2017 as part of our work on the introduction of market-wide half-hourly settlement for domestic and smaller non-domestic consumers in profile classes 1-4. In February 2018, we published a Strategic Outline Case, the first of three iterations of the Business Case that will be used to support our final decision on market-wide half-hourly settlement in the second half of 2019.

To make a decision on market-wide half-hourly settlement, we need to consider and resolve two policy questions:

- whether or not to centralise functions currently performed by supplier agents
- access to half-hourly electricity consumption data for settlement.

Our decision on access to data for settlement is necessary for clarity to complete phase two of the Target Operating Model development process, which began in April 2018. The decision will also be important in providing more clarity on the proportion of consumers who can be half-hourly settled and therefore will impact our Business Case.

Associated documents

Data Privacy Impact Assessment and Baringa's report on enhanced privacy models

<https://www.ofgem.gov.uk/publications-and-updates/access-half-hourly-electricity-consumption-data-settlement-purposes>

Ofgem Consumer First Panel, Year 9, Wave 3, Half-Hourly Settlement


<https://www.ofgem.gov.uk/publications-and-updates/ofgem-consumer-first-panel-year-9-wave-3-half-hourly-settlement>

Consumer views on sharing half-hourly settlement data

<https://www.ofgem.gov.uk/publications-and-updates/consumer-views-sharing-half-hourly-settlement-data>

Data Access and Privacy Framework, December 2012

² This is subject to cost-benefit analysis



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https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/43046/7225-gov-resp-sm-data-access-privacy.pdf

Market-Wide HHS: Strategic Outline Case

https://www.ofgem.gov.uk/system/files/docs/2018/02/market_wide_hhs_strategic_outline_case_february_2018.pdf

Significant Code Review launch statement

<https://www.ofgem.gov.uk/publications-and-updates/electricity-settlement-reform-significant-code-review-launch-statement-revised-timetable-and-request-applications-membership-target-operating-model-design-working-group>

Ofgem working paper on supplier agent functions under HHS, March 2018

<https://www.ofgem.gov.uk/publications-and-updates/supplier-agent-functions-under-market-wide-half-hourly-settlement>

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Executive Summary

To protect consumers' interests, while enabling proportionate access to energy consumption data, a smart metering Data Access and Privacy Framework (DAPF) was established by DECC (now BEIS) in 2013.³ The framework covers access to domestic and microbusiness consumers' energy consumption data.

Access to half-hourly (HH) electricity consumption data is necessary to settle a consumer HH. Under the existing DAPF, energy suppliers require consent from domestic consumers to access their HH electricity consumption data and must give microbusiness customers⁴ the opportunity to opt-out.

Ofgem holds information⁵ on the proportion of domestic consumers opting to share their HH electricity consumption data with their supplier. On the basis of this information, it appears likely that if Ofgem decided to retain the current requirement to obtain opt-in consent to access HH electricity consumption data, a significant proportion of consumers would not be able to be half-hourly settled.

We are seeking your views on striking the right balance so we can ensure that consumers' privacy is safeguarded while mitigating the risk that not settling consumers half-hourly could make the electricity system more expensive and less efficient.⁶

We expect Half-Hourly Settlement (HHS) to be beneficial for consumers as it enables more efficient use of resources in the electricity system. A smarter, more flexible energy system could have significant benefits for consumers, with savings estimated to be between £17-40 billion by 2050. Specifically, we anticipate that HHS should reduce the need for investment in new generation and network infrastructure, reduce security of supply costs and lead to lower bills for consumers across the board. HHS will give suppliers incentives to offer a range of new products like time of use tariffs and we expect suppliers to offer customers the choice of whether they take these up.

Options under consideration

As part of our review of the access to HH data arrangements for settlement purposes for domestic and microbusiness customers, we are considering three core options:

1. **Opt in:** Access to HH electricity consumption data for settlement purposes is subject to existing data access rules, giving domestic consumers the choice to opt in (the status quo for domestic consumers)

³https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/43046/7225-gov-resp-sm-data-access-privacy.pdf

⁴ This is defined in the Standard Conditions of Electricity Supply Licence (7A.14) as "a Non-Domestic Consumer: (a) which is a "relevant consumer" (in respect of premises other than domestic premises) for the purposes in article 2(1) of The Gas and Electricity Regulated Providers (Redress Scheme) Order 2008" or "(b) which has an annual consumption of not more than 100,000 kWh".

⁵ This data is commercially sensitive and collected under licence

⁶ More expensive and less efficient than would be the case if consumers were settled HH

2. **Opt out:** There is a legal obligation on the party responsible for settlement to process HH electricity consumption data for settlement purposes only, unless the consumer opts out (HH data for microbusinesses is currently collected on an opt out basis)
3. **Mandatory:** There is a legal obligation on the party responsible for settlement to process HH electricity consumption data for settlement purposes only

We are considering two additional 'enhanced privacy' options which would both result in all smart or advanced metered consumers being half-hourly settled. These options would provide additional privacy to consumers:

- 4a. **Anonymisation:** consumers can choose to have their data retrieved, processed and aggregated by a centralised body, rather than by suppliers and their agents, with HH data anonymised after settlement processes are complete
- 4b. **Hidden Identity:** HH electricity consumption data is retrieved by a new 'pseudonymisation service'. They replace the information⁷ which can be used to identify an individual with a new unique identifier – obscuring their identity, as the data can no longer be attributed to individual consumers without a key. This pseudonymised⁸ data is then processed for settlement purposes by the usual parties responsible for settlement. All consumers would be settled using their HH data under this option⁹

We are consulting on all of the access to data options above. We discuss the three basic access to data options in chapter three below. We then discuss the 'enhanced privacy' options, anonymisation and hidden identity, in chapter four. Opt-out (option two) is currently the access to data option that we think offers the best balance between preserving consumer choice over sharing data and realising the system benefits and savings associated with HHS. We want to examine the evidence that stakeholders put forward in response to this consultation before reaching a decision.

In chapter five, we set out options and ask for views on whether current rules on access to data from microbusiness consumers should be retained, or whether microbusiness consumers should be required to be HH settled. In chapter six, we have set out options and asked for views on potential bespoke rules that may be necessary for consumers who had a smart meter installed prior to any regulatory or code changes

Additional questions we are seeking views on

⁷ A device identifier which can be linked to an MPAN (Metering Point Administration Number).

⁸ Pseudonymisation is the process of distinguishing individuals in a dataset by using a unique identifier that does not reveal their 'real world' identity

⁹ Providing they have a smart or advanced meter installed

In chapter seven, we outline our current view that access to aggregated HH data should be sufficient for forecasting purposes. However, we are seeking views on whether this data is sufficient for suppliers of all sizes to forecast with a reasonable degree of accuracy.

In chapter eight, we ask for views on whether sharing HH electricity export data is of less concern to consumers than sharing consumption data and seek views on whether any clarity is needed on retrieval of HH export data.

In chapter nine, we ask for views on the monitoring/auditing environment for the use of HH data for settlement and for any additional views on the Data Protection Impact Assessment published alongside this consultation.

Associated documents

We have published a number of documents alongside this consultation. These are:

- A Data Protection Impact Assessment
- A paper summarising the findings of an Ofgem commissioned survey and a report on the findings of Ofgem's Consumer Panel, a focus group held with consumers across GB. Both the survey and the focus group investigated consumer attitudes to sharing HH data for settlement purposes.
- A report by Baringa evaluating potential access to data arrangements with a focus on anonymisation and hidden identity (pseudonymisation) options

Approach and next steps

This consultation closes on 3rd September, 2018. We appreciate the time which organisations and individuals will need to put into reading and responding to this consultation and will carefully consider all evidence which we receive. We are working towards publishing a decision on access to half-hourly electricity consumption data for settlement purposes by the end of 2018.

1. Background

Chapter Summary

This chapter explains how the electricity settlement arrangements currently operate, the importance of half-hourly data to half-hourly settlement (HHS) and the legal framework governing access to half-hourly data. It also provides an overview of the HHS project and the benefits it is expected to bring about.

Existing settlement arrangements

- 1.1 Energy suppliers purchase electricity based on their forecast estimates of what they expect their customers to use in each half-hour period. The difference between the volumes of energy purchased by suppliers and the volume their customers have consumed has to be measured and the costs of any imbalances attributed to the correct parties. This process is known as settlement.
- 1.2 Domestic and smaller non-domestic consumers have traditionally been settled on a non-half-hourly (NHH) basis against an estimated profile of their consumption.¹⁰ This was necessary prior to the rollout of smart and advanced meters because smaller electricity consumers have not had meters capable of recording half-hourly (HH) electricity consumption.

Access to data from smart or advanced meters

- 1.3 Profile Classes are currently divided so that domestic customers fall into classes 1-2, while Profile Classes 3-4 comprise smaller non-domestic consumers. Smart and advanced meters¹¹ are currently being offered to Profile Class 1-4 customers. Such meters enable actual consumption in each HH period to be recorded.
- 1.4 The smart meter rollout is being led by energy suppliers. Suppliers are required by their licence to take all reasonable steps to rollout smart meters to all of their domestic and small business customers by the end of 2020. Once smart or advanced meters are installed, it is possible to settle customers based on their actual HH electricity consumption rather than using Profile Classes.
- 1.5 To settle customers half-hourly, the party or parties responsible for retrieving, processing and aggregating data for settlement needs HH energy consumption data from the smart or advanced meter. Under the existing smart metering Data Access and Privacy Framework

¹⁰ Profile classes use an estimate on consumer's energy consumption patterns based on average demand across all consumers. See <https://www.elexon.co.uk/knowledgebase/profile-classes/>

¹¹ In some cases, some non-domestic customers are having advanced meters installed rather than smart meters.

(DAPF)¹², energy suppliers require consent from domestic consumers to access their HH energy consumption data and must give microbusiness customers¹³ the opportunity to opt-out from such data collection.

Benefits of moving to market-wide half-hourly settlement

- 1.6 The move to market-wide HHS is part of a wider set of reforms looking to facilitate the energy system transition and improve outcomes for consumers. Market-wide HHS has an important role to play as an enabler of flexibility and a facilitator of new and innovative business models. A smarter, more flexible energy system could have significant benefits for consumers, with savings estimated to be between £17-40 billion by 2050.¹⁴
- 1.7 We expect that it will be necessary to introduce market-wide HHS to fully capitalise on the opportunities presented by smart metering. Existing NHH settlement arrangements rely on estimates and suppliers are not exposed to any variation in individual consumption patterns and therefore the true cost of supplying each customer at different times of day.
- 1.8 There is therefore currently limited incentive on suppliers to innovate by offering smart tariffs and other products to help customers to shift their consumption away from peak periods when prices for suppliers are highest and networks are at their most constrained. Consumers who already use less energy at peak times are therefore currently unlikely to be rewarded by their supplier, despite costing the system less.
- 1.9 We expect HHS to be beneficial for consumers as it enables more efficient use of resources in the electricity system. If consumers are able to shift some demand away from peaks, this should reduce the need for investment in new generation and network infrastructure, reduce security of supply costs and lead to lower bills for consumers across the board. Increases in intermittent generation and rising electricity demand – driven by increased electrification in the transport and heat sectors – are expected to further increase the need for flexibility.

¹²https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/43046/7225-gov-resp-sm-data-access-privacy.pdf

¹³ This is defined in the Standard Conditions of Electricity Supply Licence (7A.14) as “a Non-Domestic Consumer: (a) which is a “relevant consumer” (in respect of premises other than domestic premises) for the purposes in article 2(1) of The Gas and Electricity Regulated Providers (Redress Scheme) Order 2008” or (b) which has an annual consumption of not more than 100,000 kWh”.

¹⁴ As noted in the joint Ofgem/Government Smart Systems and Flexibility Plan (July 2017): https://www.ofgem.gov.uk/system/files/docs/2017/07/upgrading_our_energy_system_-_smart_systems_and_flexibility_plan.pdf

- 1.10 We expect Settlement Reform to deliver a more efficient and streamlined system. Cost savings from this should be passed to consumers by suppliers.

Project background

- 1.11 In July 2017, we launched the Electricity Settlement Reform Significant Code Review (SCR) to design, assess and then, subject to cost-benefit analysis, implement market-wide HHS.¹⁵ We are running the our project as an Ofgem-led end-to-end process that will conclude with our decisions on code changes towards the end of the process.¹⁶
- 1.12 The Smart Meters Act¹⁷ provides Ofgem with the means to progress these reforms more effectively than through an SCR. We therefore plan to stop the SCR at an appropriate point and use the new powers for the remainder of the process. We currently envisage that this is likely to be after we have made our decision on if, when and how to implement market-wide HHS, backed up by our Full Business Case in the second half of 2019.
- 1.13 As part of the SCR process we have asked ELEXON, the code administrator for the Balancing and Settlement Code, to lead a Design Working Group to develop a Target Operating Model (TOM) to enable market-wide HHS for Ofgem. Ofgem retains decision-making powers on all aspects of the TOM design, supported by a Design Advisory Board that provides strategic advice on the products delivered by the Design Working Group.
- 1.14 We are also developing a Business Case following HM Treasury's Five Case Model approach¹⁸ to major projects, which breaks down each iteration of the Business Case into five individual cases – the strategic, economic, commercial, financial, and management cases. We will develop the Business Case in three iterations, updating the information and analysis in each individual case at each iteration. We published the first of these iterations, the Strategic Outline Case, in February 2018.¹⁹ We expect to publish the Outline Business Case in mid-2018.
- 1.15 We expect to take a final decision on market-wide HHS, supported by a Full Business Case and Target Operating Model, by the second half of

¹⁵https://www.ofgem.gov.uk/system/files/docs/2017/07/electricity_settlement_reform_significant_code_review_launch_statement.pdf

¹⁶ Industry codes are multilateral contracts, defining the terms under which industry participants can access the electricity and gas networks. Licensees are required to maintain, become party to, or comply with the industry codes in accordance with the conditions of their licence.

¹⁷<http://www.legislation.gov.uk/ukpga/2018/14/contents/enacted/data.htm>

¹⁸ The Five Case Model is a methodology for producing business cases for spending proposals. See Green Book guidance: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/469317/green_book_guidance_public_sector_business_cases_2015_update.pdf

¹⁹ <https://www.ofgem.gov.uk/publications-and-updates/market-wide-half-hourly-settlement-hhs-strategic-outline-case>

2019, with changes to the relevant licences and industry codes²⁰ and implementation to follow.

- 1.16 The decision on access to data for settlement is a prerequisite to finalising the HHS Target Operating Model and the final iteration of the Business Case.

The regulatory framework governing access to data from smart and advanced meters

- 1.17 To ensure that consumers' interests are protected, while enabling proportionate access to data, the DAPF was established by the Government in 2013.²¹ This framework was subsequently extended by Ofgem in 2015 to apply the provisions to all remote access meters.²² The central principle of the framework is that consumers have control over how their data is used, except where this is required for regulated purposes. Under the rules set out in this framework, suppliers may only access domestic HH electricity consumption data where consumers have given opt-in consent for them to do so. HH data for microbusiness consumers is available to suppliers on an opt-out basis.²³ Conditions of access to electricity consumption data from smart and advanced meters are set out in Standard Condition 47 of the Electricity Supply Licence.²⁴
- 1.18 The DAPF and relevant data protection legislation (see paragraphs 1.20-1.21 below), set out the basis upon which suppliers can access consumers' data from smart and advanced meters and the choices consumers have in relation to this access.

Personal data

- 1.19 When a domestic (or in some cases microbusiness²⁵) consumer's HH electricity consumption data is retrieved from a smart or advanced meter, it comes with information²⁶ that could potentially be used by certain parties²⁷ to determine the identity of and limited information about an individual. We are therefore treating this data as personal

²⁰ Industry codes are multilateral contracts setting out the market rules applicable between market participants. Market-wide HHS may affect several codes depending on the scope of the changes needed.

²¹https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/43046/7225-gov-resp-sm-data-access-privacy.pdf

²² Advanced meters are a form of Remote Access Meters. See Ofgem's Supply Licence Conditions for a definition

²³ Suppliers must give microbusiness customers the opportunity to opt out from such data collection

²⁴<https://epr.ofgem.gov.uk/Content/Documents/Electricity%20Supply%20Standard%20Licence%20Conditions%20Consolidated%20-%20Current%20Version.pdf>

²⁵ Where the microbusiness concerned is not incorporated.

²⁶ A device identifier which can be linked to an MPAN (Metering Point Administration Number).

²⁷ Distribution network operator (DNOs), suppliers and their agents, and some authorised third party intermediaries can use information from the ECOES industry database to see the address associated with an MPAN.

data and taking a privacy by design approach²⁸ to promote privacy and data protection from the outset.

- 1.20 Given that HH electricity consumption data can be considered personal data, data protection legislation applies. There are a number of relevant pieces of legislation. Two that are considered particularly pertinent are:
- The UK Data Protection Act (DPA) 2018²⁹
 - General Data Protection Regulations (GDPR) – which has applied since 25 May 2018, two years after its entry into force on 24 May 2016
- 1.21 The GDPR³⁰ makes a number of changes to the UK’s existing data protection regime, including more stringent obligations in relation to personal data processing than those that applied under the DPA 1998. Compliance with this legislation is overseen by the Information Commissioner’s Office (ICO), which was set up to uphold information rights.
- 1.22 We are assessing the options on access to HH data for settlement against the requirements of the GDPR and the new DPA 2018, which recently replaced the DPA 1998.

²⁸ See <https://ico.org.uk/for-organisations/guide-to-data-protection/privacy-by-design/>

²⁹ The DPA 1998 was replaced by the Data Protection Act in May 2018, see:

http://www.legislation.gov.uk/ukpga/2018/12/pdfs/ukpga_20180012_en.pdf

³⁰ <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R0679&from=EN>

2. Scope and rationale

Chapter Summary

In this chapter, we set out what is included in the scope of this consultation and in some cases what is not, as well as our reasoning for doing so.

Scope of the consultation

- 2.1 The scope of this consultation is specifically on access to half-hourly (HH) electricity consumption data for settlement purposes.³¹ Current provisions on access to data for settlement were established by Government³² via the DAPF following consultation with a large number of stakeholders.
- 2.2 BEIS has committed to concluding a review of the DAPF by the end of 2018.
- 2.3 We are specifically not considering changing the conditions of access to data for activities that fall outside of the definition of settlement. For example, our changes will not affect the DAPF rules giving consumers full control over whether to allow suppliers to use their HH electricity consumption data for billing purposes, or to use individual HH data to compare what a specific customer costs to settle with what that customer pays for their electricity, and therefore determine what tariff to offer the customer, set prices, or otherwise target marketing at them.
- 2.4 As set out in Appendices 1D and 1B³³ of Ofgem's SCR launch statement, potential use of consumption data for calculating transmission and distribution network charging by suppliers and their appointed agents is within the scope of the work underway to develop a Settlement Target Operating Model. If network charging proposals currently being developed by Ofgem require changes necessitating a further Data Protection Impact Assessment (DPIA) or an update to the attached DPIA (eg access to additional types of personal data or requirement for additional parties to handle individual consumers' HH consumption data beyond what is considered in the attached DPIA) this would be subject to further consultation.

Access to data for non-settlement purposes

- 2.5 Some stakeholders have indicated to us that they think the scope of Ofgem's consultation should be broader. Specifically, some suppliers are concerned that restricting access to individual HH data to

³¹ Chapter 8 covers access to HH energy export data for settlement

³² Now part of the Department of Business, Energy and Industrial Strategy (BEIS)

³³ https://www.ofgem.gov.uk/system/files/docs/2018/01/appendix_2_proposed_governance_arrangements_for_the_development_of_the_target_operating_model.pdf

settlement purposes only and not including uses such as determining what tariff to offer a consumer, setting prices or marketing may stifle innovation or be unfair on suppliers.

- 2.6 There is also a discussion underway about access to electricity consumption data for public interest uses, such as research, to aid policymaking or support beneficial innovation.³⁴ While we recognise these points, we have been clear since the publication of our Project Objectives and Assessment Options document in September 2017³⁵ that the scope of our policy work on access to data is limited to settlement.³⁶
- 2.7 Evidence on public attitudes cited in the Government Response to the consultation on the DAPF highlights that “*by far and away the dominant concern from domestic consumers was that personal information would be used as a source of leads for marketing approaches*”.³⁷ Ofgem’s more recent consumer panel research found that most consumers were happy to share their data for settlement purposes and saw this as beneficial for the supplier, wider society, and potentially for themselves. However, there were also concerns expressed about potential wider use of this data, with some consumers worried that sharing their data for settlement purposes could lead to a potential increase in their energy bill.³⁸
- 2.8 The Government response to the consultation on the DAPF highlighted that one reason for restricting access to HH electricity consumption data was the principle that suppliers are responsible for demonstrating to consumers the clear benefits of sharing their data for a particular purpose. We believe that the existing requirement to obtain opt-in consent to use HH electricity consumption data for billing and marketing purposes should incentivise suppliers to develop attractive products so that consumers feel that they benefit in return for sharing their data.
- 2.9 We recognise that some consumers will not wish to share their HH electricity consumption data for billing or marketing purposes and that this may be challenging for suppliers. We are examining the impact of different levels of consumption shifting, and by implication the effect of different levels of data sharing for marketing and billing purposes, through the economic case as part of the HHS Business Case process.

³⁴ Sustainability First and the Centre for Sustainable Energy are convening a policy dialogue to explore this question, see: <http://www.sustainabilityfirst.org.uk/public-interest-advisory-group>

³⁵ <https://www.ofgem.gov.uk/publications-and-updates/project-objectives-and-assessment-options-market-wide-half-hourly-settlement-business-case>

³⁶ See footnote 32. We have asked stakeholders about access to data for forecasting in chapter 7 below.

³⁷ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/43046/25-gov-resp-sm-data-access-privacy.pdf

³⁸ <https://www.ofgem.gov.uk/publications-and-updates/ofgem-consumer-first-panel-year-9-wave-3-half-hourly-settlement>

3. Options on access to data for settlement

Chapter Summary

In this chapter, we set out the three core access to data for settlement options that we are considering. We then present our thinking and the key considerations relevant to each.

Question 1: What are your views on Ofgem’s assessment of the implications of the options we have set out for access to HH electricity consumption data for settlement?

Question 2: Do you agree with Ofgem’s current view that the best balance could be achieved by a legal obligation to process HH electricity consumption data for settlement provided the consumer has not opted out, and if so, why? If you have a different view, please explain which option you would prefer and the reasons for this.

Question 3: There is a risk that consumers who use particularly high volumes of electricity at peak could choose not to be HH settled and therefore disproportionately increase energy system costs, which would then be shared by all consumers. Do you have any views on whether or how we should address this issue?

Overview

- 3.1 In chapters three and four, we set out the five options under consideration on access to data for settlement. Of these options, two are sub-options that offer enhanced privacy for consumers. The first sub-option is ‘Hidden Identity’, where pseudonymisation is used to hide the consumer’s identity; the second is a form of anonymisation.³⁹ These are covered briefly in this chapter and in more detail in chapter four.
- 3.2 Under all the options we are considering, access to HH electricity consumption data would be strictly limited to processing by suppliers and authorised agents for settlement purposes. All organisations processing data are required to comply with data protection rules, whilst licensed parties also have to comply with licence conditions, both of which provide protection for consumers and carry strong penalties for any unauthorised access or use of data.
- 3.3 We are considering all options except opt-in for microbusiness consumers, as access to HH electricity consumption data from these

³⁹ This option does not fit the formal definition of anonymisation and we therefore refer to it as protected identity in chapter 4 below.

consumers is currently already on an opt-out basis. We explicitly address access to data for microbusiness in chapter five, below.

3.4 The three core options are as follows:

1. Opt-in: Access to HH electricity consumption data for settlement purposes is subject to existing data access rules, giving domestic consumers the choice to opt in (the status quo).
2. Opt-out: There is a legal obligation on the party responsible for settlement to process HH electricity consumption data for settlement purposes only, unless the consumer opts out.⁴⁰
3. Mandatory: There is a legal obligation on the party responsible for settlement to process HH electricity consumption data for settlement purposes only.

3.5 We are also considering two additional 'enhanced privacy' options which would both result in all smart or advanced metered consumers being half-hourly settled. These options would provide additional privacy to consumers:

- 4a. Anonymisation: consumers can choose to have their data retrieved, processed and aggregated by a centralised body, rather than by suppliers and their agents, with HH data anonymised after settlement processes are complete. All consumers would be settled using their HH data under this option.⁴¹
- 4b. Hidden Identity: HH electricity consumption data is retrieved by a new 'pseudonymisation service'. They replace the information⁴² which can be used to identify an individual with a new unique identifier – obscuring their identity, as the data can no longer be attributed to individual consumers without a key. This pseudonymised data is then processed for settlement purposes by the usual parties responsible for settlement. All consumers would be settled using their HH data under this option.⁴³

Option 1, Opt in: Access to HH electricity consumption data for settlement purposes is subject to existing data access rules, giving domestic consumers the choice to opt in (the status quo for domestic consumers⁴⁴)

⁴⁰ This is the status quo for microbusinesses. We may select different options for microbusinesses and domestic consumers. Options are set out in chapter 5 below

⁴¹ Providing they have a smart or advanced meter installed

⁴² A device identifier which can be linked to an MPAN (Metering Point Administration Number).

⁴³ Providing they have a smart or advanced meter installed

⁴⁴ We are not considering this option for microbusiness consumers. See chapter 5 for more details on this consumer segment.

- 3.6 Under this approach, HH data from domestic consumers would only be accessed on an opt-in basis. Suppliers would therefore be required to obtain opt-in consent from consumers to retrieve HH data. The grounds for lawful processing under opt-in would be consent.⁴⁵

Anticipated levels of opt-in

- 3.7 Ofgem requests information annually from all larger electricity suppliers (those with more than 250,000 customers), through the Smart Metering Annual Request for Information (RFI), on the proportion of domestic consumers opting in to share their HH electricity consumption data with their supplier. This data provides us with a general indication of consumers' willingness to share their HH electricity consumption data. Suppliers are taking different approaches to communicating options and seeking consent, and not all are proactively asking their customers to share HH electricity consumption data.
- 3.8 Among suppliers that proactively ask their customers if they can access their HH data, opt-in rates are highly variable. Although in some cases they can be as high as 80%, we do not think this is a reliable predictor. Those who have already had a smart meter installed are comparatively early adopters of smart meters. This group may have a different attitude towards sharing their data than consumers who have a smart meter installed at a later date. Information provided to Ofgem by suppliers generally indicates that while variance could be explained by difference in consumer base, more important factors in determining whether or not people are willing to share their data are: the approach taken to obtaining consent; explaining how data will be used; services offered to customers; and potential benefits in return for their data.⁴⁶
- 3.9 This is backed up by information provided by suppliers who responded to Ofgem's voluntary Access to Data for Settlement RFI in November 2017.⁴⁷ Responses indicated a broad range of approaches with the amount of information provided to consumers to guide their choice, for example on the implications of a particular data sharing decision, varying considerably by supplier. Some suppliers are offering specific services, for example, portals that allow consumers to track their electricity consumption, while others offer more general offers of tailored tariff offers or advice in return for access to data.
- 3.10 The majority of suppliers do not currently settle Profile Class 1-4 customers on a HH basis.⁴⁸ The RFI data does not indicate how willing consumers are to share data for settlement purposes or whether consumers who are willing to share their data for one purpose are more or less likely to do so for other purposes. We would expect that

⁴⁵ Article 6(1)(a) of the GDPR

⁴⁶ Ofgem expects that all parties seeking consent to access HH data do so in a manner which complies with the GDPR and standard conditions of electricity supply licence.

⁴⁷ <https://www.ofgem.gov.uk/publications-and-updates/voluntary-request-information-inform-privacy-impact-assessment-access-data-settlement>

⁴⁸ A minority of PC1-4 customers are settled HH using the elective HH arrangements

suppliers would review their approach to asking for access to HH electricity consumption data if they needed consumer consent to access HH data specifically for settlement.

- 3.11 On the basis of current opt-in rates, it appears likely that while a majority of consumers would consent to sharing their HH data for settlement, a significant minority may not if Ofgem decided to retain the requirement to obtain opt-in consent to access it, in part because some individuals are unlikely to act against the default setting. There is scope for this proportion to vary considerably depending on prevailing public opinion over smart meters and data privacy, practicalities of engaging with consumers, wider societal attitudes towards sharing data, market conditions and any future incentives for consumers to engage with flexibility.

Potential barriers to securing opt-in consent

- 3.12 If Ofgem decides to retain the status quo for domestic consumers (opt-in), the evidence suggests that some consumers will not choose to share their HH data and will therefore not be able to be HH settled. Experience from, for example, the increase in the uptake of pensions after auto-enrolment, highlights that consumers will often take the default option, which in the case of opt-in would be not sharing data, unless they feel motivated to take proactive steps to deviate from such an option. This view was expressed by a number of participants in Ofgem's consumer focus groups *"If..I had to physically opt in then that's something I have to do. I would prefer something I don't have to do. People won't do it [share their data] if they have to physically opt in".*⁴⁹
- 3.13 As smart meters are rolled out, a growing proportion of a supplier's new smart metered customers will be acquired not through installation of a smart meter, but through either a change of occupancy or a proactive switch of energy supplier. In either scenario, the requirement for a supplier to secure opt-in consent from the new customer to process their HH electricity consumption data may be challenging because of the need for the customer to proactively engage. If a third party intermediary was involved in a switch, for example, it could potentially be more complex for the supplier to obtain the customer's opt-in consent to share their HH electricity consumption data, particularly if a switch was automated and involved little or no direct communication between the consumer and the supplier.⁵⁰
- 3.14 Some suppliers have raised concerns that it could be very challenging to explain to consumers what HHS is and the benefits of opting-in to provide access to HH electricity consumption data. This is particularly the case because the benefits of HHS may be indirect from the

⁴⁹ <https://www.ofgem.gov.uk/publications-and-updates/ofgem-consumer-first-panel-year-9-wave-3-half-hourly-settlement>

⁵⁰ Consent could be sought by third parties acting on behalf of the supplier but this would have to be integrated into processes.

consumer's perspective, depending on how the market evolves. Indirect benefits are likely to accrue in the medium to long term and be shared across all consumers.

Implications if significant numbers of consumers are not HH settled

- 3.15 If a substantial proportion of HH electricity consumption data is not available for settlement, it will have three key implications for HHS benefits realisation:
- System benefits that we expect as a result of consumers responding to incentives to shift demand away from peak price periods would not be realised for these consumers. Costs of providing security of supply and adequate network infrastructure would potentially be higher, particularly if, for example, the number of consumers with electric vehicles grows significantly as expected over the next few decades. Such costs would be passed to all consumers.
 - Suppliers would not have a strong incentive to engage otherwise disengaged NHH settled consumers, for example by developing and offering them innovative products such as time of use tariffs. These customers would therefore lose out on potentially beneficial energy deals and may, in the longer term, become more expensive to serve which could result in increased prices for such customers.
 - The Target Operating Model (TOM) for market-wide HHS will have to accommodate increased numbers of consumers whose HH data is not available. Opt-in would therefore be likely to increase the complexity and cost of the TOM, as it would need to continue to have processes for a substantial volume of NHH settled customers.
- 3.16 For these reasons, the proportion of consumers who choose not to share HH electricity consumption data could significantly reduce the benefits and/or increase the costs of market-wide HHS. While there is no specific threshold from the information we have, it appears likely that if Ofgem retained opt-in, the proportion of consumers with HH electricity consumption data not available for settlement may, at least initially, be significant.
- 3.17 We have discussed access to data for settlement purposes with consumers via Ofgem's consumer research panel. We also sought views via an online survey. We discuss the findings of this research in more depth under option 2, below.

Option 2, Opt out: There is a legal obligation on the party responsible for settlement to process HH electricity consumption data for settlement purposes only, unless the consumer opts out (HH data for microbusinesses is currently collected on an opt out basis)

- 3.18 Under this option, legal obligation⁵¹ would be the grounds for processing of HH data for settlement purposes. As such, this option would place a legal obligation on the party or parties responsible for retrieving data for settlement to retrieve HH data for settlement purposes unless the customer had opted out. This would not affect suppliers' access to HH electricity consumption data for other purposes, such as billing or marketing, which are based on opt-in consent under the DAPF.

Anticipated levels of opt-out

- 3.19 This option would continue to allow consumers to choose whether to share their HH data for settlement purposes. However, we expect that a legal obligation with opt-out would increase the proportion of consumers who were HH settled compared to option 1 (opt in), as sharing such data for settlement would become a default.
- 3.20 Ofgem's Standard Conditions of Electricity Supply Licence specify that suppliers can access daily consumption data subject to the consumer not opting out.⁵² The Smart Metering Annual Request for Information (RFI) provided Ofgem with data on the number of domestic consumers who did not opt-out of sharing daily electricity consumption data with their supplier. However, this data is extremely variable and we do not think that data on daily data opt-outs is necessarily helpful in understanding the proportion of consumers likely to opt-out of sharing HH data for settlement purposes.
- 3.21 We discussed views on sharing HH electricity consumption data from smart meters at four Ofgem consumer panel sessions in March 2018. Consumers had a range of views on sharing HH data for settlement.⁵³ Generally, consumers viewed opt-out as a 'go to' option, feeling that it struck the best balance between consumer choice and enabling HHS. However, some felt uncomfortable with opt-out on the basis that some more vulnerable consumers might not understand that their data would be processed nor why this would happen. We also commissioned a face-to-face survey with consumers.⁵⁴ This survey suggested that 65% of consumers would be very or fairly willing to share their data for settlement purposes, with 16% of consumers indicating they would not be willing to share their HH data for settlement. The remaining 19% were undecided about sharing their data.

Benefits of opt-out

⁵¹ Article 6(1)(c) of the GDPR

⁵² See Standard Condition 47 of the Electricity Supply Licence Conditions

⁵³ <https://www.ofgem.gov.uk/publications-and-updates/ofgem-consumer-first-panel-year-9-wave-3-half-hourly-settlement>

⁵⁴ The online survey covered 1,467 consumers

- 3.22 When consumers are HH settled, suppliers will be exposed to the true cost of supplying that customer in each half-hour. They will have an incentive to develop and offer them innovative products that reward reduced energy usage at times of peak demand, such as time of use tariffs or rebates when consumers shift energy use off-peak. The higher the proportion of consumers who take up such products, the larger the anticipated benefits of HHS are likely to be.
- 3.23 It is challenging to predict the market response to HHS. However, it may be that the innovation necessary for consumers to shift consumption away from peak periods at scale will only occur, or will occur more rapidly, when most consumers are HH settled, as the size of the market for such products and services – for example time of use products, smart price comparison services or smart appliances – will be larger.
- 3.24 In the section above on opt-in, we highlighted that as the smart meter rollout progresses, suppliers will become increasingly likely to acquire new smart metered customers through change of occupancy or when consumers change energy supplier. We anticipate that where customers are acquired, for example, through change of occupancy or a third party intermediary such as a price comparison website, opt-out could lead to higher rates of HH settlement because consumers would not be required to actively engage to provide consent.
- 3.25 Based on the evidence that we have on consumer preferences and the general tendency for consumers to accept a default option, we anticipate that opt-out would lead to more consumers being HH settled than relying on opt-in consent.

Potential downsides of opt-out

- 3.26 If we choose this option, we do not know how many consumers will choose to opt out of sharing their HH electricity consumption data. If a relatively small proportion of consumers opted out, it is likely that they could be profiled and settled relatively simply within the newly designed settlement system. Approximations for a small group of consumers will not be expected to significantly impact overall settlement accuracy. However, if HH electricity consumption data is not available for a higher proportion of consumers, then the settlement system would need to have more sophisticated and potentially more costly mechanisms to ensure NHH customers are profiled and settled accurately. At an extreme end, if the proportion of NHH customers is high, then many elements of the existing arrangements for NHH customers may need to be maintained within the new settlement system.
- 3.27 Some suppliers have suggested to us that the requirement to ask for and record separate consent to access data for different purposes and treat different customers in different ways could potentially be challenging for them and add system costs.

- 3.28 We have some specific concerns about how incentives on suppliers or consumers could lead to decisions on sharing HH data for settlement (either not opting in or opting out) that would not be in the collective interest of consumers or the system as a whole. For example:
- Suppliers will be exposed to the true cost of individual consumers' electricity consumption. If a supplier knows or suspects that a particular customer uses a lot of electricity at peak, either because that customer has shared their HH data for other purposes or because of information that they hold about the customer,⁵⁵ the supplier may be incentivised to try to reduce their costs by discouraging the customer from sharing their HH data for settlement, eg through negative messaging in communication.
 - Consumers who use particularly high amounts of electricity at peak, such as electric vehicle owners charging them at home, could potentially significantly reduce their bills if they choose to adopt a smart tariff and shift their demand away from peak periods. However, if these consumers choose to remain NHH settled, their suppliers will have reduced incentives to make them this offer. As energy system costs are shared amongst all consumers, there is a risk that this could have a disproportionate effect on the costs faced by other consumers. This could undermine the realisation of the benefits of HHS and the move to a smart, flexible energy system.

Overview

- 3.29 Opt-out is currently the access to data option that we think offers the best balance between preserving consumer choice over sharing data and realising the system benefits and savings associated with HHS. We want to examine the evidence stakeholders put forward in response to the questions in this consultation.

Option 3, Mandatory: There is a legal obligation on the party responsible for settlement to process HH electricity consumption data for settlement purposes only

- 3.30 Under this option, the party responsible for settlement would be required to process HH electricity consumption data for settlement purposes.⁵⁶ This option would mean there was a legal obligation placed on relevant licenced parties⁵⁷ to retrieve HH data from all profile class 1-4 smart and advanced metered customers for settlement purposes. Therefore, all customers with a smart or advanced meter would be HH settled.

⁵⁵ For example if they own an electric vehicle

⁵⁶ Article 6(1)(c) of the GDPR – legal obligation – would be the grounds for lawful processing

⁵⁷ Licensed parties may engage other parties, such as supplier agents, to fulfil obligations on their behalf.

- 3.31 Suppliers would not be allowed to use HH data for most⁵⁸ other purposes, such as marketing and billing without the consumer's opt-in consent, in line with the DAPF.
- 3.32 This option provides certainty that over time the great majority of consumers with a smart or advanced meter would be HH settled.⁵⁹ We therefore anticipate that this would deliver the highest proportion of consumers HH settled and therefore the highest level of system benefits and cost savings. It would also remove complexity and inefficiencies associated with developing a settlement system that would need to accommodate significant numbers of NHH settled consumers over the medium to long term.⁶⁰
- 3.33 However, some stakeholders are concerned that this would remove consumers' choice over whether to share HH data for settlement. As stated above, Ofgem's consumer survey suggested that around 16% of consumers would be fairly or very unwilling to share their data for this purpose.⁶¹ There is a risk that some consumers would feel so strongly that they did not wish their HH electricity consumption data to be retrieved for settlement purposes that they would choose not to accept a smart meter. They would then not be able to access the range of benefits that smart metering offers, such as accurate billing, better informed switching, and access to a wider range of tariffs, some of which could be cheaper for them.
- 3.34 If we decided that this option might be the right way forward, we would need to consider further and set out our thinking on why the system and consumer benefits of removing consumer choice over sharing HH electricity consumption data for settlement purposes would be proportionate when weighed against the privacy implications.
- 3.35 We have assessed the specific privacy risks associated with access to HH electricity consumption data for settlement purposes in the draft Data Protection Impact Assessment published alongside this consultation.
- 3.36 If Ofgem chooses to introduce a legal obligation to process HH electricity consumption data for settlement purposes, the ICO has highlighted to us the importance of considering the rights of consumers who accept a smart meter before any changes to licence conditions are decided on. We have considered this question, which is also relevant to option two (opt-out) above and have addressed this in chapter six below.

⁵⁸ Licence conditions permit access to data for approved trials on an opt out basis

⁵⁹ Except in the event that technical issues prevented accurate HH data from being collected, recorded or communicated to the data retriever.

⁶⁰ We propose that suppliers will continue to be required to obtain opt in consent to access data from consumers whose supply contract began prior to any regulatory or code changes. We expect this customer group to get smaller over time. See chapter 7 for more detail.

⁶¹ <https://www.ofgem.gov.uk/publications-and-updates/consumer-views-sharing-half-hourly-settlement-data>

Options 4a and 4b, Mandatory with either anonymisation or hidden identity: There is a legal obligation to process HH electricity consumption data for settlement but with either anonymisation or hidden identity.

- 3.37 Under these options, there would be a requirement to process HH data for settlement purposes. However, this would be combined with the introduction of additional measures to provide consumers with additional privacy.
- 3.38 In principle, these options could address many of the concerns that consumers might have with mandatory processing of HH data for settlement, as their personal identity would be hidden. However, the costs of this approach have not yet been fully assessed.
- 3.39 We have discussed two 'enhanced privacy' models, including the 'hidden identity' model, which uses pseudonymisation techniques to deliver such protection, in chapter four below.

Preliminary view on access to HH data for settlement

- 3.40 We are considering all five options outlined above. However, based on the evidence we have seen so far, our preliminary view is that Option 2: introducing a legal obligation to process HH electricity consumption data for settlement purposes only unless the consumer opts out is the option that offers the best balance between preserving consumer choice over sharing data and realising the system benefits and savings associated with market-wide HHS. There is a risk that if many people choose to opt out, this could reduce the benefits that can be realised. However, we consider that it is an important principle that consumers should have the ability to control their personal data.
- 3.41 We want to achieve a solution that strikes a proportionate balance between realising the intended benefits of HHS and consumers' right to privacy. We will carefully consider evidence gathered from this consultation before reaching a decision to determine the right outcome.
- 3.42 Whichever option we decide to proceed with, we propose to review whether the decision on access to HH data continues to strike the right balance between privacy and enabling system and consumer benefits,⁶² after a reasonable period of time or when particular milestones have been reached.
- 3.43 It is important to reiterate that whatever Ofgem's final decision, the scope of this consultation is limited to settlement purposes only. All parties handling data will be subject to licence conditions and/or

⁶² We will clarify proposed timeframes for such a review when we make a final decision on access to data for settlement

broader data protection regulations, which impose strict rules to protect consumers' data from misuse.

Consultation questions

Question 1: What are your views on Ofgem's assessment of the implications of the options we have set out for access to HH electricity consumption data for settlement?

Question 2: Do you agree with Ofgem's current view that the best balance could be achieved by a legal obligation to process HH electricity consumption data for settlement provided the consumer has not opted out, and if so, why? If you have a different view, please explain which option you would prefer and the reasons for this.

Question 3: There is a risk that consumers who use particularly high volumes of electricity at peak could choose not to be HH settled and therefore disproportionately increase energy system costs, which would then be shared by all consumers. Do you have any views on whether or how we should address this issue?

4. Enhanced privacy

Chapter Summary

In this chapter, we set out two models that offer enhanced privacy to consumers with respect to access to HH consumption data. In both models, all consumers' HH electricity consumption data would be processed for settlement. We assess each and indicate whether we will intend to consider them further. We have not been able to quantify the costs and benefits of each at this stage.

Question 4: What are your views on the potential enhanced privacy options?

Question 5: If we decided to further consider the hidden identity option, do you think data from all consumers should be pseudonymised or only data from consumers who have not chosen to share their HH data for settlement?

Question 6: Please provide any information you can about the likely costs and benefits of these options.

Hidden Identity (pseudonymisation) and Anonymisation

Overview

- 4.1 We have taken a 'data protection by design'⁶³ approach to considering whether to change rules on access to data for settlement. As part of this approach and in response to recommendations from the Information Commissioner's Office (ICO), we have considered whether anonymising or pseudonymising data would be feasible and/or proportionate measures to providing consumers with additional protection. We have published a report by Baringa⁶⁴ alongside this consultation, which considers pseudonymisation and anonymisation in detail and assesses their compatibility with the various Target Operating Model (TOM) options currently being considered.
- 4.2 Baringa's work considered a wide range of options including combining pseudonymisation or anonymisation with each of the access to HH electricity consumption data options described in chapter three.⁶⁵ These options were narrowed down to the following two potential models:
 - 4a. **Anonymisation:** consumers can choose to have their data retrieved, processed and aggregated by a centralised body, rather

⁶³ <https://ico.org.uk/for-organisations/guide-to-the-general-data-protection-regulation-gdpr/accountability-and-governance/data-protection-by-design-and-default/>

⁶⁴ <https://ofgem.gov.uk/publications-and-updates/consultation-access-half-hourly-electricity-data-settlement-purposes>

⁶⁵ Eg opt in, opt out, mandatory settlement

than by suppliers and their agents, with HH data anonymised after settlement processes are complete.

- 4b. **Hidden Identity:** HH electricity consumption data is retrieved by a new 'pseudonymisation service'. They replace the information⁶⁶ which can be used to identify an individual with a new unique identifier – obscuring their identity, as the data can no longer be attributed to individual consumers without a key. This pseudonymised data is then processed for settlement purposes by the usual parties responsible for settlement. All consumers would be settled using their HH data under this option.⁶⁷

4.3 We are concerned that the term pseudonymisation is not easy to understand. We therefore refer to this pseudonymisation as 'hidden identity' to aid understanding of what it means in practice.

4.4 We narrowed options down to these two models, which are described in this chapter, using the following design principles agreed with Baringa:

- It was assumed that anonymisation or pseudonymisation would generally not act as an incentive for consumers to opt in or not to opt out of providing access to their consumption data for HHS.⁶⁸ We took this precautionary position because anonymisation at source was found not to be technically feasible and pseudonymisation was thought to be difficult to explain to consumers. However, if clearly presented to consumers, these options could reassure those with privacy concerns.
- It was recognised that a degree of personal data processing is required under all technically feasible anonymisation⁶⁹ or pseudonymisation options
- It was agreed that to avoid excess complexity, anonymisation and pseudonymisation would not be implemented together
- Neither anonymisation (as proposed by Baringa) nor pseudonymisation is expected to have any material impact on data quality (when compared to HHS without anonymisation/pseudonymisation) as existing data validation processes should be unaffected (although small errors from additional complexity are assumed)

⁶⁶ Providing they have a smart or advanced meter installed

⁶⁷ Providing they have a smart or advanced meter installed

⁶⁸ We referring to pseudonymisation as 'hidden identity' later in this chapter as pseudonymisation is not a widely understood concept.

⁶⁹ We established that it is not technically feasible to retrieve anonymised data directly from smart meters as this would not be compatible with DCC systems.

- Implementing pseudonymisation or anonymisation for existing smart or advanced metered customers only (see chapter six) would not be cost-effective given that the size of this customer group is expected to fall over time.

Anonymisation

- 4.5 Anonymisation is defined under the GDPR as “data rendered anonymous in such a manner that the data subject is not or no longer identifiable”.⁷⁰ Where data is considered to be truly anonymised, it is no longer classified as personal data.
- 4.6 Where HH data from smart and advanced meters is concerned, the party retrieving data from the smart or advanced meter will receive HH data with information attached, such as a device ID, that enables the meter and therefore the associated household to be identified by certain industry parties who have access to the relevant database.⁷¹ In respect of smart meters operated via the Data Communications Company (DCC), it is not possible to draw data from the meters in a pre-anonymised format due to the functioning of and security protocols associated with the DCC’s systems.⁷² Therefore, it would be necessary to undertake anonymisation post-data retrieval. This is similarly the case for advanced meters, which do not have functionality to provide data in a pre-anonymised format.
- 4.7 Anonymising HH data after it has been retrieved from the meter is a less attractive option from a privacy perspective because the data would, at the point of retrieval, still be considered personal data. We have however, considered whether data could be anonymised post retrieval and whether this would offer significant benefits to consumers. We are clear that this would not meet the GDPR definition of anonymisation as personal data would still be retrieved. However, it could still be rendered anonymous and therefore offer some privacy and/or security benefits compared to not anonymising.
- 4.8 Following analysis by Baringa and discussions with stakeholders, our view is that anonymisation would have to take place after data had been validated to ensure that data met minimum required levels of accuracy and integrity. Stakeholders have told us that validation is a critical step without which HH data is not fit for purpose. Baringa’s report reflects this view.⁷³ We therefore propose ruling out anonymisation pre-validation.

⁷⁰ GDPR, Legislative acts (26)

⁷¹ Distribution network operator (DNOs), suppliers and their agents, and some authorised third party intermediaries can use information from the ECOES industry database to see the address associated with an MPAN.

⁷² DCC provides the network for HH data retrieval but does not access this data.

⁷³ <https://ofgem.gov.uk/publications-and-updates/consultation-access-half-hourly-electricity-data-settlement-purposes>

- 4.9 We outline our view in the Data Protection Impact Assessment (DPIA) that the parties with the most incentive to misuse HH data are suppliers. Ofgem’s consumer panel research found that *“Some more sceptical panellists were unsure about sharing any data with their supplier...after discussing data for billing purposes. These consumers were distrusting of their suppliers to use the data for the agreed purpose”*.⁷⁴
- 4.10 The model for anonymisation that we are currently considering is therefore underpinned by the following principles proposed by Baringa:
- A degree of anonymisation can be achieved through separation (and centralisation) of settlement functions for a subset of consumers
 - Such anonymisation would remove or reduce suppliers’ visibility of the data used to determine their settlement position as effective anonymisation should preclude MPAN⁷⁵-level interrogation of the data by suppliers.
- 4.11 This option stemmed from considering whether anonymising HH consumption data could offer benefits to consumers with privacy concerns. It is now different from the formal definition of anonymisation. We continue to use the term anonymisation in this consultation to avoid confusion but acknowledge that it does not match the legal definition.

Proposed anonymisation model

- 4.12 The key features of the anonymisation model⁷⁶ which we are considering are:⁷⁷
- Data from all domestic⁷⁸ consumers would be processed for settlement purposes with legal obligation as the grounds for processing as described in chapter three above⁷⁹
 - Anonymisation would only be applied for consumers who opted to have this additional identity protection. All other consumers would

⁷⁴ <https://www.ofgem.gov.uk/publications-and-updates/ofgem-consumer-first-panel-year-9-wave-3-half-hourly-settlement>

⁷⁵ Meter Point Administration Number

⁷⁶ Our risk analysis on anonymisation is set out in full in the Data Protection Impact Assessment published alongside this consultation.

⁷⁷ This model is presented in Baringa’s report as opt out on the basis that data from opted out customers would be anonymised. However, we think that a more accurate representation is a legal obligation for suppliers to settle half-hourly with an option for customers to opt in to additional protection for their data.

⁷⁸ We would need to consider whether any enhanced privacy would be available to microbusiness consumers. We would also need to consider technical feasibility of implementing a protected identity model for advanced metered consumers.

⁷⁹ Unless there is a technical reason why this is not possible. For example meter communications issues

have their data processed for settlement within the mainstream settlement system established by the TOM process.

- Consumers who opted for anonymisation would have their HH data retrieved, processed and submitted to settlement by a single, separate, data agent whose services would be procured centrally. This data would not be available to suppliers or their appointed agents.
- This model represents partial centralisation of the settlement agent system. Baringa's analysis concluded that if Ofgem decided to centralise settlement agent functions then there would not be an incremental value to this option.
- It could be necessary for unanonymised data to be retained for the duration of the dispute resolution window to allow for any suspected errors to be challenged. If we were to decide to look further at this option, we would need to be convinced that this retention was necessary and consider whether, if personal data was retained until the end of any dispute resolution timeframe, the benefits of this anonymisation model would be proportionate to the costs.

Our assessment of anonymisation

4.13 The potential benefits of the model described above would be to prevent suppliers and their agents from processing HH electricity consumption data from consumers who do not wish to share such data. This would potentially address concerns highlighted in the DPIA about suppliers' incentives to misuse data.⁸⁰ However, we are minded not to pursue this anonymisation option for a number of reasons, outlined below:

- the proposed anonymisation option is not anonymisation in its true form as personal data would be retrieved, validated, processed and potentially retained for dispute settlement purposes. The later data is anonymised, the lesser the privacy or security benefits are of doing so.
- under the anonymisation proposal described above, data would be anonymised as early as possible. However, principle (e) of the GDPR states that "personal data must be kept in a form which permits identification of data subjects for no longer than is necessary for the purposes for which the personal data are processed". Therefore, we would expect that any party processing HH data for settlement purposes only would need to delete such data once all settlement related functions have been completed (for example, after the dispute window has closed). This may mean that in practice there would be little or no difference between

⁸⁰ See Ofgem's Data Protection Impact Assessment for more information

the “anonymisation” settlement proposal and a settlement model with no enhanced privacy where timeframes for deleting or anonymising data are concerned.

- 4.14 If consumers can choose to opt-in to the “anonymised” settlement route, it will not be easy to predict the number of people who will wish to do so. This would depend on how the option was presented by suppliers who may have motivations to either promote or discourage consumers from selecting it, depending on their commercial interests.
- 4.15 Finally, the benefits of this option rest on the assumption that routing data away from suppliers and their appointed agents offers a real or perceived privacy benefit to consumers.
- 4.16 Evidence from Ofgem’s consumer survey showed that consumer trust in energy suppliers was higher at 58% than trust in ‘a central body appointed to process the data from all consumers to make sure suppliers are charged the correct amount’ (53%). This suggests that a significant minority of consumers may not be reassured by a central body processing their data instead of their supplier. We also note that the ICO highlighted in its response to our 2015 consultation on HHS that: *“Consumer trust is important and there is the potential for a centralised agent to have a negative impact on that trust. Consumers may be concerned about all HH data being collected in a central database and what may happen with that data, especially if the database were government run.”*⁸¹
- 4.17 Ofgem is currently considering whether or not to centralise functions currently carried out by supplier agents. We published a working paper in March 2018 to provide an update on our thinking on this policy.⁸²

Hidden Identity (Pseudonymisation)

- 4.18 Article 4(5) of the GDPR defines pseudonymisation as: “the processing of personal data in such a way that the data can no longer be attributed to a specific data subject without the use of additional information.” Pseudonymisation is described by the ICO as carrying a “greater privacy risk (than anonymisation) but not necessarily an insurmountable one”.⁸³
- 4.19 In September 2017, when we published the access to data options we are considering,⁸⁴ we discussed the use of pseudonymisation combined

⁸¹https://www.ofgem.gov.uk/system/files/docs/2017/01/information_commissioners_office_consultation_response.pdf

⁸²https://www.ofgem.gov.uk/system/files/docs/2018/03/supplier_agent_functions_working_paper.pdf

⁸³ <https://ico.org.uk/media/for-organisations/documents/1061/anonymisation-code.pdf>

⁸⁴ <https://www.ofgem.gov.uk/publications-and-updates/project-objectives-and-assessment-options-market-wide-half-hourly-settlement-business-case>

with a legal obligation to process HH electricity consumption data for settlement purposes only (option 3).

- 4.20 Baringa considered combining pseudonymisation with opt-in or a legal obligation with an option to opt out. In these models, those who did not opt in or decided to opt out of having their data processed for settlement purposes would not be HH settled and those who did choose to share their data would have this data pseudonymised.
- 4.21 Our objective when considering pseudonymisation is to allow more consumers to be HH settled rather than to introduce additional complexity to settle consumers who are willing to share their data. Pseudonymising data only from consumers who are happy to opt in to sharing their data or do not opt out would introduce a layer of privacy that was not considered appropriate or necessary when the original DAPF was established.⁸⁵ Thus, we propose to rule out these options.
- 4.22 The cost and complexity of introducing pseudonymisation (see the diagram below) has led us to conclude that it would be most effective if combined with a legal obligation to process HH data from all smart and advanced meters for settlement purposes only. This would achieve the greatest economies of scale and have the greatest proportionality benefit by providing an additional layer of protection for consumers who might otherwise have concerns about their HH data being retrieved and processed for settlement purposes.

Hidden Identity: Proposed Pseudonymisation Model

- 4.23 In Baringa's proposed model for pseudonymisation,⁸⁶ a new 'pseudonymisation service' (PS) role would be created. This service provider would retrieve HH data and replace MPANs with new pseudonymised data IDs. Data would then be processed by the supplier agent responsible for processing the HH data. The PS provider and the relevant Supplier Meter Registration Agent⁸⁷ would both need to hold the 'data map' to ensure that data was sent to the right parties for processing. This data map would need updating daily.
- 4.24 To enable accurate settlement, some registration data⁸⁸ would need to accompany pseudonymised IDs to enable settlement parties to complete validation, processing and aggregation activities.
- 4.25 Baringa's model specifically assumes that HH electricity consumption data from all consumers is pseudonymised. This model is likely to be the simplest, as all settlement data would be treated the same way. However, if consumers are happy to opt in or not opt out of sharing their HH data, pseudonymising their data may be unnecessary. We

⁸⁵ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/43046/7225-gov-resp-sm-data-access-privacy.pdf

⁸⁶ If Ofgem decides to pursue pseudonymisation then we will do more detailed design work on pseudonymisation

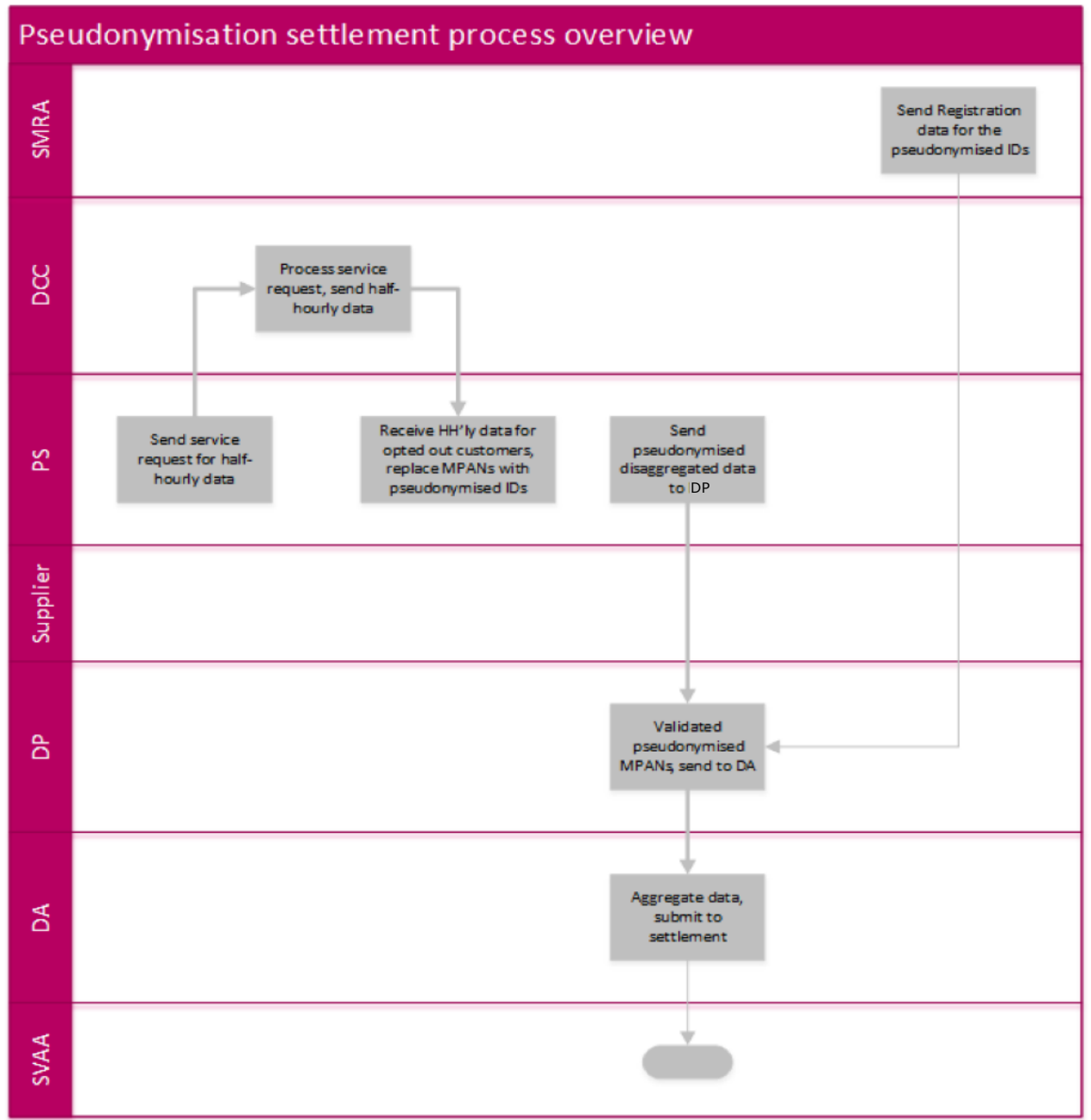
⁸⁷ The SRMA role is undertaken by the local distribution network.

⁸⁸ For example line loss factor, supplier, appointed agent. Registration in this context refers to functions currently carried out by DNOs as opposed to the role of any future new centralised switching service.

are seeking views on whether, if pseudonymisation is taken forward to a detailed design phase, it would be more beneficial to require all HH data to be pseudonymised or just data from consumers who would otherwise not wish to consent to their data being processed for HH settlement purposes.

- 4.26 If pseudonymisation is taken forward to a detailed design phase, we will need to evaluate how difficult it would be for a supplier, a supplier agent or an external third party obtaining data via a security breach to match pseudonymised IDs with MPANs. We think that parties may be unlikely to go to such lengths to identify individual consumers, given that such activity would clearly contravene the GDPR.
- 4.27 We are also taking into account the likelihood that if a pseudonymisation model is taken forward that includes centralisation of retrieval functions, then the party doing the retrieval may need to be a licensed party. This could potentially have implications for the timescales within which such a model could be introduced.

4.28 The diagram below shows the high level pseudonymisation process developed by Baringa. (See Glossary for explanation of abbreviations)



4.29 The approach to pseudonymisation in the diagram above would not give suppliers or their agents access to HH data with MPANs attached. Hidden Identity through pseudonymisation would not prevent suppliers from separately retrieving HH data direct from the meter where they have obtained the appropriate consent to do so.

Our assessment of Hidden Identity (pseudonymisation)

- 4.30 In our draft DPIA,⁸⁹ we have set out our current expectation that the Hidden Identity option would mitigate both privacy and security risks. However, we recognise that hiding consumers' identity through pseudonymisation would add complexity and additional costs to the settlement system.
- 4.31 If evidence received in response to this consultation suggests that pseudonymisation could be a proportionate and practical approach that allows for a high proportion of the market to be settled HH with good protection for consumer data without undue complexity and cost, we will consider this option further.

Consultation Questions

Question 4: What are your views on the potential enhanced privacy options?

Question 5: If we decided to further consider the hidden identity option, do you think data from all consumers should be pseudonymised or only data from consumers who have not chosen to share their HH data for settlement?

Question 6: Please provide any information you can about the likely costs and benefits of these options.

⁸⁹ See DPIA pages 58-59

5. Microbusinesses

Chapter Summary

BEIS estimates that around 70% of profile class 3-4 consumers are microbusinesses. Access to HH data from these consumers is currently on an opt-out basis. In this section, we set out our analysis and preference on access to data from microbusinesses.

Question 7: Do you think that there should be a legal obligation to process HH data from all smart and advanced metered microbusiness customers for settlement purposes only? If you disagree, please explain why.

Question 8: Are there any issues relating to access to data from microbusinesses that you think Ofgem should be aware of?

Treatment of microbusinesses

Overview

- 5.1 As set out by the Government in the Data Access and Privacy Framework (DAPF), many considerations around data access and privacy for microbusiness⁹⁰ consumers are similar to those for domestic consumers. The Government therefore concluded in the (DAPF) that “a basic level of protection is justified and necessary for microbusinesses, given that there are similarities between microbusinesses and domestic premises”.⁹¹
- 5.2 The microbusiness market is more complex than the domestic market, with a mixture of smart and advanced meters installed in microbusiness premises.
- 5.3 In considering treatment of this group, we are mindful of the need to balance privacy with delivering the benefits of HHS and putting in place incentives for innovation.
- 5.4 Suppliers are required, under the terms of Condition 7A of Ofgem’s Standard Conditions of Electricity Supply Licence, to take all reasonable steps to identify whether a non-domestic customer is a microbusiness customer⁹²
- 5.5 Suppliers can access HH electricity consumption data from microbusinesses if, after giving at least seven days’ advance notice of

⁹⁰ The definition of a microbusiness customer is set out in condition 7A of the [Standard Conditions of Electricity Supply Licence](#). See footnote 3

⁹¹ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/43046/72_25-gov-resp-sm-data-access-privacy.pdf

⁹² <https://epr.ofgem.gov.uk//Content/Documents/Electricity%20Supply%20Standard%20Licence%20Conditions%20Consolidated%20-%20Current%20Version.pdf>

their intention to obtain the data and the purposes for which they may use the data, the microbusiness customer has not opted out.⁹³

- 5.6 Ofgem is proposing to rule out changing conditions of access to HH electricity consumption data for microbusiness customers to opt in (option 1 above) on the basis that this would introduce a layer of privacy that was not considered appropriate or necessary when the original DAPF was established.⁹⁴ Moreover, this would likely lower the proportion of HH electricity consumption data available from this consumer group and therefore the proportion that could be HH settled.
- 5.7 If we decide to consider either of the enhanced privacy options further for domestic consumers, then we will also consider whether it would be proportionate to extend such enhanced protections to microbusiness customers. We do not think that it is likely to be proportionate to introduce enhanced privacy solely for microbusiness consumers given the complexity that is likely to be associated with such a measure and the original decision to provide protection to this group at a more permissive level (opt-out) than for domestic consumers. Such enhanced privacy options may be more technically complex to implement for microbusiness consumers with advanced meters.
- 5.8 Only HH electricity consumption data from those classified as microbusinesses is treated by the Standard Conditions of Electricity Supply Licence as being sufficiently similar to domestic consumption data as to warrant additional controls on access. The consumption data of larger, non-domestic consumers is not in scope of this consultation. There are currently no restrictions on supplier access to HH data from this group of consumers on the basis that their data is not considered to be personal data.

Assessment of options

- 5.9 We are currently considering the following options for microbusinesses:
- Do nothing and retain the status quo (opt-out) access to HH electricity consumption data for microbusiness consumers with smart or advanced meters.
 - Mandatory - Introduce a legal obligation to process HH data from microbusinesses for all smart and advanced metered consumers for settlement purposes only
- 5.10 Data from some microbusiness consumers will constitute personal data and therefore be covered by the GDPR. We therefore need to be confident that, if we reduce the control that microbusinesses currently have over their HH electricity consumption data, this is proportionate given the benefits of doing so.

⁹³ Suppliers must also consider compliance with the GDPR when accessing HH data from microbusinesses

⁹⁴ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/43046/7225-gov-resp-sm-data-access-privacy.pdf

- 5.11 From a proportionality perspective, much of the analysis both in this consultation document and the accompanying DPIA can be applied to both domestic and microbusiness consumers, but we think that the scale of both the risks and the benefits will differ.
- 5.12 In general, we think that processing HH electricity consumption data from microbusinesses is likely to be of less concern from a privacy perspective than domestic consumption data. Microbusinesses may also be better placed to engage with their energy use than some domestic consumers. However, there is significant variation within the microbusiness sector, with some operating from domestic premises.
- 5.13 Access to HH electricity consumption data for settlement from microbusinesses would not remove microbusiness consumers' control over their HH data for billing or marketing purposes. The right to opt-out of suppliers accessing HH data for other purposes is governed by the DAPF. The system and other benefits of HH settlement are expected to be broadly the same as for domestic consumers except that where a microbusiness consumer's consumption is higher than that of a domestic customer⁹⁵ the scale of benefits may be higher. We will consider this further as part of the economic analysis in the Business Case.

Proposed option

- 5.14 We think that the proportionate balance between privacy risks and benefits for microbusiness consumers is different than for domestic consumers. We think that the privacy concerns are somewhat less severe, and the system benefits of widespread half-hourly settlement may be somewhat greater. As a result, our preference is to introduce a legal obligation on the party responsible for settlement to process HH data from microbusinesses for settlement purposes only and therefore mandate HH settlement for this group of consumers. If we consider enhanced privacy measures for domestic consumers, we will also consider them microbusiness consumers.

Consultation questions

Question 7: Do you think that there should be a legal obligation to process HH data from all smart and advance metered microbusiness customers for settlement purposes only? If you disagree, please explain why.

Question 8: Are there any issues relating to access to data from microbusinesses that you think Ofgem should be aware of?

⁹⁵ We would expect that on average microbusiness consumption would be higher than average domestic consumption.

6. Customers with existing smart or advanced meters

Chapter Summary

This chapter sets out what we mean by customers with existing smart or advanced meters, and why we are giving this group special consideration. We set out the options we have identified, explaining their privacy options these consumers have after any change to rules on access to data for settlement, and explain our preferred option.

Question 9: We propose that domestic and microbusiness consumers retain the level of control over sharing their HH electricity consumption data that was communicated to them at the point at which they accepted a smart or advanced meter, until the point at which the consumer decides to change electricity contract. Do you agree this is the best approach?

Overview

- 6.1 Domestic consumers who have accepted a smart or advanced⁹⁶ meter in today's market have done so on the basis that their energy supplier may only access their HH electricity consumption data if they have given their opt in consent (domestic consumers), or provided them the opportunity to opt-out (microbusiness consumers).⁹⁷ We want to ensure that this group of consumers is treated fairly if there is any change to the rules on access to data for settlement purposes.⁹⁸
- 6.2 We do not know exactly what proportion of consumers will already have a smart or advanced meter when or if we make a change to the rules on access to data for settlement. The licence requires suppliers to take all reasonable steps to roll out smart meters to all of their domestic and small business customers by the end of 2020.⁹⁹ We anticipate that the number of consumers in this existing smart or advanced meter segment could be significant.
- 6.3 We have previously noted¹⁰⁰ that we will need to consider further any bespoke rules that may be necessary for consumers who had a smart or advanced meter installed prior to any regulatory or code changes.
- 6.4 This customer group will have accepted a smart or advanced meter on different terms to those whose smart or advanced meters are installed

⁹⁶ There are a small number of domestic consumers with advanced meters.

⁹⁷ Where microbusiness consumers are concerned, consent is assumed but with a right to opt out

⁹⁸ This is a point that the ICO has emphasised to us

https://www.ofgem.gov.uk/system/files/docs/2016/03/information_commissioner_response_-_dec_15_open_letter.pdf

⁹⁹ Standard licence condition 39.1 in the electricity supply licence

¹⁰⁰https://www.ofgem.gov.uk/system/files/docs/2017/09/project_objectives_and_assessment_options_for_the_market-wide_half-hourly_settlement_business_case.pdf

after any decision to change the terms of access to HH data for settlement. We are keen to avoid requiring any retrospective changes to the terms of consumers' contracts. We therefore expect such bespoke rules would apply for the duration of the consumer's electricity contract.

Assessment of options

- 6.5 Ofgem has considered several options where existing consumers are concerned. We need to balance consideration of the terms on which these consumers accepted a smart or advanced meter, with the benefits of HHS likely to accrue to these consumers, other consumers and wider society.
- 6.6 One option we have considered is that consumers with existing smart or advanced meters should continue to be subject to the current regulatory regime in perpetuity. We are concerned that this option would be difficult to administer and could restrict fully realising the benefits of HHS because:
- Some suppliers do not currently seek consent to access domestic consumers' HH electricity consumption data when they install a smart meter because they do not currently have a reason to do so. Therefore, some consumers with existing smart and advanced meters may be happy to share their data, but currently do not as they have not been asked to give their consent to do so. Suppliers could, and depending on the option chosen may be required to, contact this customer group to seek consent to retrieve their HH electricity consumption data for settlement. However, we anticipate it may be more difficult to get consent to access data in this way, because consumers may not be motivated to proactively engage with their supplier to do so (eg by responding to a letter or email) unless there is a clear benefit to doing so. Given that many of the benefits of settlement are likely to be system-wide rather than accruing to individual consumers at the point where they provide such consent, response rates to requests for retrospective consent could be relatively low.
 - It could be administratively challenging for suppliers to be required in perpetuity to provide different consent rights to different consumers depending on when they accepted their smart or advanced meter. This could get particularly complex if consumers continued to be subject to the previous regulatory framework even after switching supplier or decided to withdraw their consent having previously shared their data for settlement or other purposes.
- 6.7 For these reasons, we are minded to rule out retaining the requirement for suppliers to obtain opt-in consent for this consumer group in perpetuity.
- 6.8 A second option would be to require this group of consumers to be subject to any new regulatory framework from the point that it takes effect. We would need to be satisfied that any such requirement was fair and proportionate. Considerations to take into account would include Ofgem's choice of access to data for settlement option – for example, whether consumers would have the opportunity to opt out of allowing their half-hourly data to be collected.

- 6.9 If consumers were given the opportunity to opt out, then this option could still potentially be considered unfair because, although all consumers would still have the opportunity to prevent their supplier accessing their data, they might not read or respond to communications from their supplier alerting them to the regulatory change and the need to take action to prevent their data from being shared.
- 6.10 A third option is that domestic or microbusiness consumers with existing smart or advanced meters would remain subject to the regulatory framework that applied at the point at which they entered into an electricity supply contract. At the point at which a consumer chose to change electricity supply contract, they would then be subject to the new regulatory framework. Such a change would take place either following a consumer's decision to change to a new supplier or where they make an explicit choice to take up a different tariff with their existing supplier.¹⁰¹ Suppliers would be required to make their customers aware of the terms of the new contract and clearly present any choices the customer had about sharing their HH data to them. Prior to this, suppliers could still choose to offer HHS and smart products to consumers, and consumers could request these and agree to share their data.

Preferred option

- 6.11 We think the third option would strike the best balance between fairness for consumers and realising the benefits of HHS. A change of contract, where this is an explicit choice by the consumer rather than a default change, is a point at which the consumer is actively engaged with their supplier. The supplier therefore has an opportunity to clearly set out the terms of the contract, which would include reflection of the conditions of access to HH electricity consumption data for settlement and the opportunity (if Ofgem were to select this option) to opt out of sharing such data.

Consultation questions

Question 9: We propose that domestic and microbusiness consumers retain the level of control over sharing their HH electricity consumption data that was communicated to them at the point at which they accepted a smart or advanced meter, until the point at which the consumer decides to change electricity contract. Do you agree this is the best approach?

¹⁰¹ Where a consumer was automatically defaulted to a new tariff, whether Standard Variable or another tariff the consumer had not explicitly chosen, they would remain subject to the previous regulatory framework.

7. Access to data for forecasting

Chapter Summary

In this section, we set out our proposal to make half-hourly (HH) electricity consumption data available for forecasting aggregated by supplier and by Grid Supply Point (GSP) group.

Question 10: What are your views on Ofgem’s proposal to make aggregated HH electricity consumption data broken down by supplier, GSP group, and metering system categorisation available for forecasting?

Question 11: Is there any additional data beyond this aggregated data that you consider suppliers will need for forecasting?

Overview

- 7.1 As noted above, in this consultation we are considering access to data for settlement purposes and not reviewing the rules on access to data for billing or marketing (or other purposes). However, we are mindful that suppliers need enough data to enable them to forecast their customers’ demand. Our current proposal is that suppliers would have access to aggregated HH electricity consumption data for their customers broken down by GSP group and metering system categorisation.¹⁰²
- 7.2 Some suppliers have told us that this may not be enough to allow them to forecast with an acceptable degree of accuracy. Information we have gathered indicates that smaller suppliers in particular may face the following issues:
- Suppliers may wish to have aggregated data for forecasting split by specific geographic region eg postcode or sub-station level. However, the more granular the data, the higher the chance that individual consumers can be identified.
 - When a supplier loses¹⁰³ a customer, they would like to know what consumption profile is associated with the MPAN in order to aid forecasting.

Considerations

- 7.3 Forecasting is a basic function that suppliers are expected to fulfil. Significant inaccuracies in forecasting can be detrimental to the system as a whole and increase costs for consumers. For example, inaccurate forecasting increases the discrepancy between supplier purchases of

¹⁰² We anticipate metering system categorisation covering information such as whether the meter is domestic, non-domestic, import or export. GSP Group refers to DNO region – see the Glossary for more information

¹⁰³ Supplier customer gains are also relevant and are covered below

wholesale electricity and total demand. This in turn increases the scale of action that National Grid must take to balance supply and demand.

- 7.4 It is important that settlement arrangements are fair to all suppliers and as far as possible do not disadvantage particular suppliers because of the size or characteristics of their customer base.
- 7.5 Suppliers will be able to access HH electricity consumption data from consumers who choose to opt in to sharing such data for forecasting.
- 7.6 If aggregated HH data is provided to suppliers at GSP group granularity, there is a possibility that some individual consumers may be identifiable. For example, smaller suppliers may only have a single or very small number of customers in a particular GSP group region. This is particularly likely to be the case in more remote GSP group areas.
- 7.7 Providing additional data, such as the information in the first bullet point above, would make it more likely that individual consumers could be re-identified from forecasting data.
- 7.8 Our consumer research indicated that willingness to share HH data for forecasting purposes is slightly lower than willingness to share it for settlement. However, the proportion of consumers who felt fairly or very strongly that they were unwilling to share HH data for forecasting was significantly lower than the percentage who were unwilling to share data for billing or marketing purposes.¹⁰⁴
- 7.9 Suppliers have told us that it would be relatively straightforward to put in place information barriers to ensure that only employees with a need to access HH electricity consumption data for specific functions would be able to do so. Suppliers should be aware of the requirements of the GDPR in this regard.
- 7.10 When a supplier gains a customer, they would like to know what consumption profile has been gained. It is worth noting that suppliers would not be able to retrieve historic data for new customers unless they obtained opt in consent from the consumer. If they obtained such consent, they could retrieve the data as a DCC other user or potentially from the consumer or from the previous supplier at the customer's request.¹⁰⁵ Therefore, this is outside the scope of this consultation but noted as a potential issue.

¹⁰⁴ <https://www.ofgem.gov.uk/publications-and-updates/consumer-views-sharing-half-hourly-settlement-data>

¹⁰⁵ The second mechanism would rely on the consumer requesting their data from their former supplier. The last would be a use of data portability rules. In both cases data could only be retrieved if the previous supplier held HH electricity consumption data.

Minded-to position

- 7.11 We are mindful that any change to rules on access to data for any reason must be proportionate. We have not yet received sufficient evidence to convince us that HH data at a higher granularity than GSP group and meter categorisation is necessary for forecasting purposes. However, we would welcome more evidence on this, particularly from smaller suppliers.
- 7.12 Our current thinking is therefore that the proportionate approach is to allow access to aggregated data for forecasting broken down by supplier, metering system category and GSP group. Given that this data could, in some cases, still constitute personal data because of the risk of re-identification, we would need to consider appropriate requirements for the use and treatment of this data.

Consultation question

Question 10: What are your views on Ofgem’s proposal to make aggregated HH electricity consumption data broken down by supplier, GSP group, and metering system categorisation available for forecasting?

Question 11: Is there any additional data beyond this aggregated data that you consider suppliers will need for forecasting?

8. Access to HH export data for settlement of export

Chapter Summary

In this section, we discuss access to HH export data for settlement purposes, the legal status of this data and its relevance to the HHS project.

Question 12: Our analysis suggests that HH export data reveals less about a consumer and is therefore likely to be of less concern to consumers than HH electricity consumption data. Do you agree?

Question 13: Do you consider that any additional regulatory clarity may be needed with respect to the legal basis for processing HH export data from smart and advanced meters for settlement?

Overview

- 8.1. The scope of the Settlement Reform SCR includes consideration of the settlement of export. We referenced in our SCR launch documentation our intention to work with BEIS on policy related to export settlement, noting the potential overlap with the Feed in Tariffs (FIT) scheme. We also set out that the TOM design work would consider potential benefits of including export in the market-wide HHS programme.¹⁰⁶
- 8.2. There is currently no requirement for generating plant with capacity less than 30kW (small-scale generation) to be registered and metered for settlement. The registration of small-scale generation export for settlement is optional.¹⁰⁷ Since the introduction of FITs, there has been rapid deployment of small-scale generation across domestic and microbusiness customers.¹⁰⁸
- 8.3. As a result, the majority of small-scale generation export is currently 'spilled' onto the distribution network without being metered or settled (and therefore attributed to individual energy suppliers). This negatively impacts the accuracy of the settlement system, with ELEXON estimating that in 2015 export 'spill'¹⁰⁹ was 0.7-1TWh, with those volumes allocated to suppliers through the Grid Supply Point (GSP) Group Correction Factor (GCF).¹¹⁰ The inclusion of export into settlement would therefore reduce settlement inaccuracy. If export was settled on a HH basis, it would more efficiently allocate costs/benefits and introduce an incentive for suppliers to reward consumers who export energy at times that are more beneficial for the system.

¹⁰⁶https://www.ofgem.gov.uk/system/files/docs/2018/01/updated_target_operating_model_design_principles.pdf

¹⁰⁷ <https://www.elexon.co.uk/guidance-note/microgeneration-and-the-balancing-and-settlement-code/>

¹⁰⁸ https://www.ofgem.gov.uk/system/files/docs/2017/12/feed-in_tariff_fit_annual_report_2016-17_0.pdf

¹⁰⁹ Spill refers to unmetered electricity exported onto the distribution or transmission system

¹¹⁰ https://www.elexon.co.uk/wp-content/uploads/2015/11/02_SRAG_03_01-FiTs_Spill_v1.0.pdf

- 8.4. One of the baseline design principles which the Design Working Group agreed to was to ensure the TOMs could cover both HH electricity import (also referred to as consumption) data and HH export data. Therefore, all the TOM options developed to date are able to facilitate the settlement of HH export data, provided the export is registered for settlement (or otherwise required to be settled). It is important to note that, like other policy decisions, any policy decision on requiring export settlement will be made separately from the TOM design work.
- 8.5. We are mindful that, to facilitate half-hourly settlement of export, it may be necessary to provide clarity on the legal grounds for settlement parties to access HH electricity export data given that export data is not within scope of the DAPF.
- 8.6. This chapter presents a summary of Ofgem’s initial analysis, about which we are seeking stakeholder views and evidence.

Export data from smart and advanced meters

- 8.7. Smart and advanced meters can record and store information on both energy consumption and export on a half-hourly basis. Once a smart or advanced meter is installed, it is therefore possible to settle export from the premises on a half-hourly basis.
- 8.8. Export data is defined in Ofgem’s licence conditions as “the flow of electricity from an eligible installation onto a distribution system or transmission system”.¹¹¹ Consumption and export are metered separately, therefore there are separate MPANs for consumption and export where this occurs in the same location. Ofgem’s licence conditions do not currently place any restrictions on supplier access to electricity export data. However, relevant data protection regulations are applicable.

Export data as personal data

- 8.9. Currently, the dominant source of electricity export from domestic and microbusiness consumers is solar PV.¹¹² Other less common sources of small-scale export that can be combined with battery storage include micro wind turbines, combined heat and power and micro-hydro. In the future, ownership of electric vehicles (EVs) and electricity storage are expected to grow significantly. EVs may become a significant source of export if users decide to use the potential of their EV batteries to provide electricity to the grid when required in return for benefits for doing so.
- 8.10. Data protection regulation covers access to personal data. We have considered whether energy export data should be considered to be personal data. We think that export data does not reveal as much about a consumer as their consumption data and is therefore less likely to be of

¹¹¹<https://epr.ofgem.gov.uk//Content/Documents/Electricity%20Supply%20Standard%20Licence%20Conditions%20Consolidated%20-%20Current%20Version.pdf>

¹¹² <https://www.gov.uk/government/statistical-data-sets/monthly-central-feed-in-tariff-register-statistics>

concern to consumers. However, it can be linked to an MPAN that can in turn be linked to a specific account. We are therefore considering HH export data to be personal data. However, we note that energy exported without reference to system needs can add costs to the energy system which all consumers bear, and it is easier for a consumer to choose to refrain from exporting energy than is the case with consumption.

- 8.11. Example: A domestic premises has installed solar PV panels and exports excess power generated to the grid. It does not have electricity storage so all electricity generated that is not consumed in the home is exported to the grid. Access to their export data provides a strong indication of weather conditions on the day, which is not personal information. However, it might in theory also be possible to gain an indication from such data whether – for example - the house was occupied (or at least using electricity) by comparing local weather data and/or output from similar exporters nearby with actual export.
- 8.12. Therefore, while supplier access to half-hourly electricity export data is not specifically covered by Ofgem’s licence conditions, parties looking to access export data for settlement purposes would need to consider their legal grounds for doing so to be confident that they are compliant with relevant data protection regulations. The General Data Protection Regulation and the Data Protection Act 2018 are particularly relevant and entered into force on the 25th and 23rd of May 2018 respectively.
- 8.13. If consumers’ half-hourly export data is to be accessed for settlement, it will be important that information provided to consumers clearly explains what their export data will be used for and any difference between the choices that they have with respect to the processing and use of export data compared to their consumption data.

Proposed next steps

- 8.14. We would be grateful for stakeholder views and evidence on our assessment of the privacy implications of access to HH export data, and take this into consideration when considering whether any interventions are required where access to electricity export data from domestic and microbusinesses is concerned.
- 8.15. We aim to provide further clarity and seek views more broadly on settlement of export in the Outline Business Case, which we plan to publish in mid-2018. Where access to data for export is concerned, we will provide an update on our thinking when we publish our final decision on access to HH electricity consumption data for settlement.

Consultation questions

Question 12: Our analysis suggests that HH export data reveals less about a consumer and is therefore likely to be of less concern to consumers than HH electricity consumption data. Do you agree?

Question 13: Do you consider that any additional regulatory clarity may be needed with respect to the legal basis for processing HH export data from smart and advanced meters for settlement?

9. Data Protection Impact Assessment

Chapter Summary

In this section, we discuss access to the Data Protection Impact Assessment, published alongside this consultation.

Question 14: Do you have any thoughts on the monitoring/auditing environment for the use of HH data for settlement purposes?

Question 15: Do you have any additional thoughts or questions about the content of the DPIA?

Overview

- 9.1 A Data Protection Impact Assessment (DPIA) is a tool to help organisations find the most effective ways of complying with data protection obligations and meet individuals' expectations of privacy. DPIAs are a key element of a 'privacy by design' approach - one that builds in privacy and data protection compliance from the outset.
- 9.2 We have published a draft Data Protection Impact Assessment alongside this consultation, in which we have identified and evaluated the risks arising from or related to access to HH data for settlement purposes.


Monitoring

- 9.3 In Chapter 5 of our Data Protection Impact Assessment, we discuss the monitoring and reporting requirements in place to protect personal data. We also explain that Ofgem currently requires some suppliers to provide information relating to the installation of smart meters. The focus of information requested from suppliers may change as the smart meter rollout nears completion. As part of any potential change, we would need to consider how to continue to monitor supplier communications in relation to processing HH data and supplier behaviour where approaches to gaining consent to access and use HH data from smart and advanced meters is concerned. On the basis of such an evaluation, we may choose to conduct additional compliance monitoring to supplement or replace existing measures.
- 9.4 We would like your views on the right monitoring/auditing framework for the use of HH data for settlement purposes.

Proposed Next Steps

- 9.5 We will consider stakeholder responses to this consultation, and publish an updated DPIA alongside our response.

Consultation questions



Access to half-hourly electricity consumption data for settlement purposes

Question 14: Do you have any thoughts on the monitoring/auditing environment for the use of HH data for settlement purposes?

Question 15: Do you have any additional thoughts or questions about the content of the DPIA?

Appendix 1 - Glossary

A

Advanced meter

As defined by the Standard Conditions of Electricity Supply Licence, an advanced meter is an Electricity Meter that, either on its own or with an ancillary device, and in compliance with the requirements of any relevant Industry Code:

- (a) provides measured electricity consumption data for multiple time periods, and is able to provide such data for at least half-hourly time periods; and
- (b) is able to provide the licensee with remote access to such data.

Anonymisation

Anonymisation is defined under GDPR as “data rendered anonymous in such a manner that the data subject is not or no longer identifiable”

B

Balancing and Settlement Code (BSC)

The BSC contains the governance arrangements for electricity balancing and settlement in Great Britain

C

Consumption data

Also known as import data, this is a record of any granularity of the amount of electricity supplied to a given MPAN

D

Data Access and Privacy Framework

Government has developed a data access and privacy policy framework to determine the levels of access to energy consumption data from smart meters that suppliers, network operators and third parties should have. It also establishes the purposes for which data can be collected and the choices available to consumers.

Data Communications Company

The DCC is responsible for linking smart meters in homes and small businesses with energy suppliers, network operators and energy service companies.

E

Export data

This data is a record of quantity of electricity supplied – also known as export – back to the grid, eg from a solar panel

G

Grid Supply Point (GSP)

A grid supply point is a point where the transmission system connects to the distribution system

Grid Supply Point Group

A distribution network region, as defined under the BSC.

I

Import Data

Also known as consumption data, this is a record of any granularity of the amount of electricity supplied to a given MPAN

L

Load shaping

Also known as load profiling, this is the process where a consumption pattern (or shape) is applied to a long-term meter reading to estimate more granular consumption (eg HH) of a consumer, eg when the actual HH data for a particular period(s) is not available

M

Microbusinesses

This is defined in the Standard Conditions of Electricity Supply Licence (7A.14) as "a Non-Domestic Consumer: (a) which is a "relevant consumer" (in respect of premises other than domestic premises) for the purposes in article 2(1) of The Gas and Electricity Regulated Providers (Redress Scheme) Order 2008" or "(b) which has an annual consumption of not more than 100,000 kWh".

Meter Point Administration Number (MPAN)

A unique identifier allocated to a given meter point, also known as Metering System Identifier (MSID)

P

Profile class

Profile classes are calculated using a sample of customers that are representative of the population. More information about Profile Classes can be found on ELEXON's website: <https://www.elexon.co.uk/knowledgebase/profile-classes/>

Pseudonymisation

The process of distinguishing individuals in a dataset by using a unique identifier that does not reveal their 'real world' identity

R

Register reads

Register Readings are the Meter readings obtained from meter's tariff registers. This could be the cumulative register or the meter's time of use registers.

S

Significant Code Review (SCR)

The SCR process is designed to facilitate complex and significant changes to a range of industry codes. It provides a role for Ofgem to undertake a review of a code-based issue and play a leading role in facilitating code changes through the review process.

Settlement period

The period over which contracted and metered volumes are reconciled. This is currently defined as a period of 30 minutes.

Settlement period data

Settlement Period level data is consumption data that is the granularity of the Settlement Period this could be actual consumption data obtained directly from the Meter or consumption data derived from Register Readings or unmetered supplies that is processed to Settlement Period granularity

Smart Energy Code (SEC)

The SEC is an industry code that sets out the terms for the provision of the DCC's services and specifies other provisions to govern the end-to-end management of smart metering.

Smart meter

In the context of the smart meter rollout in Great Britain, smart meters must comply with the Smart Metering Equipment Technical Specifications (SMETS). SMETS-compliant smart meters can measure and record gas and electricity consumption on a half-hourly basis and can send readings remotely to a customer's supplier.

SMETS1 and SMETS2

Smart Metering Equipment Technical Specifications 1 and 2 refers to the first and second generation of the specification for smart meters.

SMRA

Supplier meter registration agent

SMSO

Smart Meter System Operator

Appendix 2 – Consultation Questions

- A2.1 Ofgem would like to hear the views of anyone interested in the issues in this document. We would especially welcome responses to the questions at the beginning of each chapter. These questions are also copied below.
- A2.2 Please send us your response by close of business on 3 September 2018, and send them to:
- Anna Stacey
Consumers & Markets
Ofgem
10 South Colonnade
Canary Wharf
London
E14 EPU
Half-HourlySettlement@ofgem.gov.uk
- A2.3 Unless you mark your response confidential, we will publish it on our website, www.ofgem.gov.uk, and put it in our library. You can ask us to keep your response confidential, and we will respect this, subject to obligations to disclose information, for example, under the Freedom of Information Act 2000 or the Environmental Information Regulations 2004. If you want us to keep your response confidential, you should clearly mark your response to that effect and include reasons.
- A2.4 If the information you give in your response contains personal data under General Data Protection Regulation (EU) 2016/679 and Data Protection Act 2018, the Gas and Electricity Markets Authority will be the data controller. Ofgem uses the information in responses in performing its statutory functions and in accordance with section 105 of the Utilities Act 2000. If you are including any confidential material in your response, please put it in the appendices.

Chapter: Three

Question 1: What are your views on Ofgem’s assessment of the implications of the options we have set out for access to HH electricity consumption data for settlement?

Question 2: Do you agree with Ofgem’s current view that the best balance could be achieved by a legal obligation to process HH electricity consumption data for settlement provided the consumer has not opted out, and if so, why? If you have a different view, please explain which option you would prefer and the reasons for this.

Question 3: There is a risk that consumers who use particularly high volumes of electricity at peak could choose not to be HH settled and therefore disproportionately increase energy system costs, which would then be shared by all consumers. Do you have any views on whether or how we should address this issue?

Chapter: Four

Question 4: What are your views on the potential enhanced privacy options?

Question 5: If we decided to further consider the hidden identity option, do you think data from all consumers should be pseudonymised or only data from consumers who have not chosen to share their HH data for settlement?

Question 6: Please provide any information you can about the likely costs and benefits of these options.

Chapter: Five

Question 7: Do you think that there should be a legal obligation to process HH data from all smart and advanced metered microbusiness customers for settlement purposes only? If you disagree, please explain why.

Question 8: Are there any issues relating to access to data from microbusinesses that you think Ofgem should be aware of?

Chapter: Six

Question 9: We propose that domestic and microbusiness consumers retain the level of control over sharing their HH electricity consumption data that was communicated to them at the point at which they accepted a smart or advanced meter, until the point at which the consumer decides to change electricity contract. Do you agree this is the best approach?

Chapter: Seven

Question 10: What are your views on Ofgem's proposal to make aggregated HH electricity consumption data broken down by supplier, GSP group, and metering system categorisation available for forecasting?

Question 11: Is there any additional data beyond this aggregated data that you consider suppliers will need for forecasting?

Chapter: Eight

Question 12: Our analysis suggests that HH export data reveals less about a consumer and is therefore likely to be of less concern to consumers than HH electricity consumption data. Do you agree?

Question 13: Do you consider that any additional regulatory clarity may be needed with respect to the legal basis for processing HH export data from smart and advanced meters for settlement?

Chapter: Nine

Question 14: Do you have any thoughts on the monitoring/auditing environment for the use of HH data for settlement purposes?

Question 15: Do you have any additional thoughts or questions about the content of the DPIA?

Appendix 3 - Feedback on this consultation

- A3.1 We want to hear from anyone interested in this document. Send your response to the person or team named at the top of the front page.
- A3.2 We have asked for your feedback in each of the questions throughout it. Please respond to each one as fully as you can.
- A3.3 Unless you mark your response confidential, we will publish it on our website, www.ofgem.gov.uk, and put it in our library. You can ask us to keep your response confidential, and we will respect this, subject to obligations to disclose information, for example, under the Freedom of Information Act 2000 or the Environmental Information Regulations 2004. If you want us to keep your response confidential, you should clearly mark your response to that effect and include reasons.
- A3.4 If the information you give in your response contains personal data under General Data Protection Regulation (EU) 2016/679 and Data Protection Act 2018, the Gas and Electricity Markets Authority will be the data controller. Ofgem uses the information in responses in performing its statutory functions and in accordance with section 105 of the Utilities Act 2000. If you are including any confidential material in your response, please put it in the appendices.

General feedback

- A3.5 We believe that consultation is at the heart of good policy development. We are keen to hear your comments about how we have conducted this consultation. We would also like to get your answers to these questions:
1. Do you have any comments about the overall process of this consultation?
 2. Do you have any comments about its tone and content?
 3. Was it easy to read and understand? Or could it have been better written?
 4. Were its conclusions balanced?
 5. Did it make reasoned recommendations for improvement?
 6. Any further comments?
- A3.6 Please send your comments to stakeholders@ofgem.gov.uk