



Scottish & Southern
Electricity Networks

Smart Meter Data Privacy Plan

(Access to household Electricity Consumption Data)

Submitted April 2020



Scottish and Southern Electricity Networks is a trading name of: Scottish and Southern Energy Power Distribution Limited Registered in Scotland No. SC213459; Scottish Hydro Electric Transmission plc Registered in Scotland No. SC213461; Scottish Hydro Electric Power Distribution plc Registered in Scotland No. SC213460; (all having their Registered Offices at Inveralmond House 200 Dunkeld Road Perth PH1 3AQ); and Southern Electric Power Distribution plc Registered in England & Wales No. 04094290 having their Registered Office at No.1 Forbury Place, 43 Forbury Road, Reading, RG1 3JH which are members of the SSE Group www.ssen.co.uk

Version Control

Version	Revision Date	Status / Comments
V1.0	26/02/2019	Submission to Ofgem
V1.1	13/01/2020	Update following Ofgem feedback
V2.0	27/02/2020	Update following Ofgem feedback
V2.1	10/03/2020	Update following Ofgem feedback
V2.2	16/03/2020	Update following Ofgem feedback
V2.2	15/04/2020	Redacted final version

Contents

1	Introduction.....	4
2	What SMART Meter Data is Personal Data?.....	4
3	Why Does SSEN Need to Use Personal Data?	5
4	Why Does SSEN Need to Access Electricity Consumption Data?	6
5	Network Benefits Delivered to Customers From Use of Consumption Data.	8
6	Application by SSEN for Approval of Plans for Anonymisation	8
7	Ofgem Criteria for DNO Data Privacy Plan	8
8	Ofgem Criteria 1 - Consumption Data Accessed & in what Format	9
9	Ofgem Criteria 2 – Why SMART Meter Data?	10
10	Ofgem Criteria 3 – Data Assurance.....	13
11	Ofgem Criteria 4 – Electricity Consumption Data Life Cycle.....	14
12	Ofgem Criteria 5 – Data Anonymisation.....	16
13	Ofgem Criteria 6 - Privacy Impact Assessment.....	18
14	Ofgem Criteria 7 – Conformity to ISO Standards.....	18
15	Ofgem Criteria 8 – Stakeholder Engagement.....	20
16	Data Privacy Plan Review.....	24

Glossary of Terms	25
Appendix A System Diagram of Aggregation & Deletion	25
Appendix B LV Feeder Network Profile	26
Appendix C User Account Process.....	26
Appendix D DCC Apmeter Aggregation Process	28
Appendix E SSEN Data Protection Impact Assessment	29
Appendix F Information Security Management System (ISMS).....	54
Appendix G SSEN Ipsos MORI Stakeholder Engagement (Qualitative).....	54
Appendix H Draft Privacy Notice.....	62
Appendix I System End to End Process of Aggregation.....	63
Appendix J Aggregation Process and Deletion Time	63
Appendix K Aggregation Multiple LV Feeders	64
Appendix L NDAG Consumption Data Requests and Subject Access Requests (SAR)	65
Appendix M ISO27001:2013 Certificate	66
Appendix N SSEN Ipsos MORI Stakeholder Engagement (Quantitative)	66

1 Introduction

In order to maximise the benefits that can be delivered to customers from the use of the smart metering system, Scottish and Southern Electricity Networks (SSEN) will have access to the Electricity Consumption Data recorded by the smart meters. As this data is considered to be Personal Data, SSEN is required by its Electricity Distribution Licence (SLC10a) to submit an application to Ofgem seeking approval for its proposed Data Privacy Plan (DPP).

This document details how SSEN plans to put in place appropriate controls and protection to ensure that any Electricity Consumption Data retrieved from smart meters is adequately protected to maintain customers' privacy.

The requirement within Standard Licence Condition SLC10a requires that each Distribution Network Operator (DNO) submits "proposals to demonstrate to the satisfaction of Ofgem that it can implement practices, procedures and systems which are designed to ensure that, so far as is reasonably practicable. Electricity Consumption Data which is obtained by the licensee and which relates to a period of less than one month ceases (through its aggregation with other Electricity Consumption Data or by means of any other process) to be data which is capable of being associated with a domestic customer at relevant premises".

The purpose of this DPP is to describe how SSEN will treat Electricity Consumption Data obtained from smart meters and ensure that the appropriate level of customer anonymity is achieved. This DPP describes the means of safeguarding Personal Data and sets out the policies and standards for protecting Personal Data that SSEN will apply. The overall strategy of this DPP is driven by the relevant licence conditions mentioned above and can be expressed in two statements as follows:

- Electricity Consumption Data that relates to a single domestic property and to a period of less than one month is considered to be Personal Data and is covered by Licence Condition SLC10A, where DNOs are required to submit a DPP for approval by Ofgem.
- Electricity Consumption Data requires protection as far as is reasonably practicable by anonymisation or aggregation or any other means; and Electricity Consumption Data that has been anonymised securely such that it ceases to be able to be associated to a person or that has been aggregated so that it no longer relates to a single domestic property.

Once SSEN start to obtain consumption data, certain benefits are attributable to the use of aggregated half-hourly consumption in order to fulfil its Regulatory Duties and deliver improvements of its network and to customers, such as:

- Avoided costs of network investment on Low Voltage network
- Reduction in network reinforcement
- Better visibility of network load profiles
- Proactive intervention of issues causing power failures
- Improved understanding of energy use during the transition to a Distribution System Operator (DSO) and uptake of low carbon technologies

2 What SMART Meter Data is Personal Data?

The British Government accepted the [European Regulators' Group for Electricity and Gas \(ERGEG\)](#) principle that "it is always the Consumer that chooses in which way consumption data shall be used and by whom, with the exception of metering data required

to fulfil Regulated Duties and within the national market model.”

Standard Licence Condition 10A (SLC10A) of the Electricity Distribution Licence applies to DNOs accessing Electricity Consumption Data which relates to a period of less than one month. Based on the above principles and the definition of Electricity Consumption Data, this will apply to the following data recorded by smart meters:

- Active electricity import – stored on SMETS compliant smart meters for thirteen months;
- Reactive electricity import – stored on SMETS compliant smart meters for three months; and
- Ad hoc or scheduled Data Communications Company (DCC) Service Requests for ‘Read Daily Consumption Log’ and ‘Read Instantaneous Import Registers’.

It is these data items that have the potential to generate consumption data for less than one month, which are deemed to be Personal Data.

SSEN will be aggregating individual half-hourly consumption data to create a profile of half-hourly consumption on each of its Low Voltage (LV) feeders and/or distribution transformers. An LV feeder will typically be associated to around twenty MPANs and transformers over a hundred. SSEN will never obtain consumption data from LV feeders that contain less than five MPANs associated to it in isolation, where an LV feeder contains less than five MPANs SSEN may choose to combine the MPANs from another LV feeder on the same transformer to collectively increase the total MPANs to five or more.

SSEN will send requests for half-hourly consumption data based upon LV feeder associated MPANs, the responses will be received from the DCC and aggregated. The aggregation processing typically takes between 2-6 minutes and the unaggregated

data deleted within a few seconds of the system aggregation process completing.

SSEN will only be storing the aggregated total half-hourly consumption data profile for each of its LV feeders and/or distribution transformers.

3 Why Does SSEN Need to Use Personal Data?

Lawful Basis for Processing

SSEN is relying on Legitimate Interests as its lawful basis for processing. This is because the proposed processing of Electricity Consumption Data is necessary for the purposes of the legitimate interests pursued by SSEN (as set out below) and are not overridden by the interests or fundamental rights and freedoms of the data subject which require protection of personal data.

SSEN have carried out a balancing test in a Legitimate Interests Assessment, and are confident that the individual’s interests do not override the legitimate interests specified below. A copy of SSEN’s Legitimate Interests Assessment in respect of the proposed processing of Electricity Consumption Data can be found at Appendix 1 of SSEN’s Data Protection Impact Assessment (DPIA). Please refer to [Appendix E](#) for SSEN’s DPIA for further detail.

Furthermore, SSEN have considered and implemented safeguards to reduce the impact of the processing on individuals. These safeguards are described in further detail in this DPP and SSEN’s DPIA.

SSEN’s Privacy Notice will explain that the legal basis for processing Electricity Consumption Data as legitimate interests.

[What are SSEN’s Legitimate Interests in Processing Electricity Consumption Data?](#)

The processing will be carried out to achieve the legitimate interest of efficiently monitoring and reviewing the effectiveness of the network and load appropriately and meeting regulatory obligations. The data will be used to understand at a more granular level the demand of its network and to manage the network more efficiently. Specifically, the legitimate interests of SSEN that are achieved by this processing include:

- Improvement of low carbon energy infrastructure;
- Customer service improvements;
- Technical and non-technical losses reduction;
- Reduced level of power outage disruption; and
- Network cost reduction.

At section 12 of its DPIA (“Table of data categories and benefit use (including the legitimate interests pursued”), SSEN sets out the legitimate interest(s) that will apply to each processing activity.

Why does SSEN need to use Personal data?

As a responsible network operator, SSEN is fully committed to operating an efficient and co-ordinated system for the benefit of its current and future customers.

A critical element of this requirement is facilitating and accommodating the future growth of Low Carbon Technologies (LCTs) such as distributed generation and electric vehicles (EV’s) and ensuring that the use of its network is efficient.

The uptake of LCTs will bring new challenges to the network, significantly changing demand patterns and challenging long established and well trusted assumptions about customer behaviour and diversity factors. Therefore, going forward it is essential that

they have improved visibility of demand on the network, to allow them to better understand the existing capacity (or headroom) on the network to ensure that the use of the network is optimised.

In particular, SSEN no longer just need to understand the demand profile on the higher voltage of the network but need to improve its understanding across the entire system including the LV feeder and/ or distribution transformer, which will be the first part of the network to be impacted by the uptake in LCTs.

A crucial part of this will be achieved by SSEN being able to access and use half-hourly consumption data from smart meters linked to their position on its network.

4 Why Does SSEN Need to Access Electricity Consumption Data?

SSEN is required to develop, maintain and operate an economical, efficient and co-ordinated system of electricity distribution.

The nature of distribution networks is that SSEN needs to change the capacity and topology of its networks over time and hence need to understand the performance of its network over extended time periods to ensure that it is able to adapt and respond to the changing needs of its customers.

To do this SSEN need to understand the loadings on its network with a sufficient level of granularity to enable the delivery of benefits to customers. To that end SSEN need the ability to aggregate half-hourly consumption data at a level that maintains an appropriate degree of network visibility such that the data is still of use to SSEN. This will help SSEN manage the following scenarios:

- May need to aggregate consumption data together differently in order to model and understand how different operational scenarios

could affect the design and operation of its networks. In all cases SSEN would not collect less than five MPANs and the same system aggregation process and privacy controls will be in place at all times. Where a LV feeder and/or distribution transformer has five or more MPANs SSEN will typically aggregate all the MPANs together which could be twenty or thirty MPANs, however SSEN may also choose to aggregate separate blocks of five or more MPANs from the same LV feeder (i.e. thirty MPANs on a LV feeder aggregated in three blocks of ten). Aggregation validation would reject repeated attempts to obtain data from the same MPAN with an overlapping time period within twelve months to prevent disaggregation through repeated requests. Having a lower level of aggregation would provide SSEN with a much higher degree of flexibility in undertaking future studies.

- As the accuracy of meter and service records improves with smart meter information, the aggregation of Electricity Consumption Data from groups of meters, or service cables, may need to be revised.

In summary, the best way for SSEN to maintain an accurate model of its network is to use stored Electricity Consumption Data that has been aggregated at a sufficiently low level to enable accurate representation of the load on network assets at a point in time - historic, current or predicted future.

This will enable SSEN to utilise aggregated half-hourly consumption data over periods that are much longer than the period consumption data is stored on the meters and maximise the opportunities for it to deliver benefits to customers. SSEN will be collecting, aggregating and storing half-hourly consumption data once a month to maintain a historical and current profile of its LV feeders and/ or distribution transformers.

Historically loading on low voltage (LV) distribution networks has been relatively stable but with the transition to a lower carbon economy customers load consumption patterns are likely to change significantly due to an increased use of low carbon technologies (e.g. EV's and heat pumps) and domestic electricity generation. The uncertainty regarding the uptake of low carbon technology equipment provides a challenge for SSEN who need to ensure that low voltage circuits (cables and overhead lines) do not become overloaded and that the quality of supply delivered to its consumers remains within statutory limits. In order to meet this challenge SSEN is in the process of transitioning to a new Distribution System Operator (DSO) model where loading on networks, including LV circuits, will be managed in a more dynamic way. In order to support this operating model SSEN needs to understand changing load patterns on its LV networks to ensure that all constraints are identified and efficiently managed.

Use of data from smart metering and other network connected devices will provide important information that enables an accurate assessment of network loading to be obtained at an individual LV circuit level.

Given the uncertainty around the uptake of low carbon technology and the consequent change to network loading SSEN have assessed that consumption data obtained on a monthly basis will enable a sufficiently granular assessment of network loading to be undertaken so that any developing network constraints can be identified and managed. Obtaining and managing smart meter half-hourly consumption data on a monthly basis has been deemed optimum as it ensures that any LV network loading issues can be identified earlier whilst keeping data access and processing to a minimum. Processing data more frequently than monthly would mean SSEN having to deploy enhanced system processes and employ significant additional effort for minimum gain. Additionally, it has been assessed that processing data over a period longer than one month will degrade the usefulness and accuracy of the data at a time when

network loading is subject to significant and regular change.

SSEN's stakeholder engagement sessions where specific questions were asked relating to the access of granular half-hourly consumption data to a level that provides benefits whilst sufficiently aggregating individual data also supports SSEN accessing five MPANs or more aggregated. Consumers in general felt this was an acceptable level of aggregation.

5 Network Benefits Delivered to Customers from Use of Consumption Data.

Smart meter data, specifically consumption data, enables pro-active planning of SSEN's LV feeders and/or distribution transformers to improve the connections process and defer or avoid network reinforcement.

The potential benefits which could be realised through access to Electricity Consumption Data of a sufficient level of granularity would be delivered to consumers through:

- Avoided costs of network investment, principally at the LV network levels. Network investment costs form part of the Distribution Use of System (DUoS) charge which is levied on Suppliers and ultimately forms part of customers' bills;
- Reduced levels of disruption as fewer excavations are needed due to the reduction in network reinforcement;
- Better visibility could allow for better management which could help identify options for loss reduction and identify potential overloads.

- Improved quality of service, for example identify potential overloads and allow proactive intervention to avoid an outage.

It is likely that further opportunities to operate networks more effectively and generate further savings can be realised as SSEN transition from a DNO to DSO along with the progression of low carbon technologies such as electric vehicles. LV feeder consumption data can enable SSEN to better understand the loadings on its network and assist future innovations that are not yet apparent but may be identified as part of the transition to a DSO.

6 Application by SSEN for Approval of Plans for Anonymisation

This application, together with supporting information attached in the appendices, explains the standards which SSEN will comply with to protect Electricity Consumption Data (as defined in Standard Licence Condition 10A of the Electricity Distribution Licence).

SSEN's Data Privacy Plan will demonstrate that practices, procedures and systems will be implemented to aggregate the data to ensure that, as far as is reasonably practicable, it can no longer be associated with an individual premise.

7 Ofgem Criteria for DNO Data Privacy Plan

In sections 8-15, SSEN have responded to the criteria outlined in Ofgem's "Open Letter on overall criteria for the assessment of Distribution Network Operators' data privacy plans for access to household smart metering data", dated 30th September 2016.

8 Ofgem Criteria 1 - Consumption Data Accessed & in what Format

Explain clearly what electricity consumption data will be accessed, in what format, over what period, from which consumers, and for which specific purposes. Those purposes must be relevant to the regulatory requirement to develop and maintain efficient, co-ordinated and economical systems for the distribution of electricity.

Half-hourly Active Import consumption data is stored within meters for a period of thirteen months, half-hourly Reactive Import consumption data is stored within meters for a period of three months. SSEN will read, aggregate, delete and securely store this data once a month before it is overwritten. When the data is requested the DCC security infrastructure will ensure that SSEN is only able to obtain data from the meters for which it is the authorised network operator, and the data itself will be encrypted by the meter and only de-encrypted once it is within SSEN's secure systems.

Consumption data to be accessed.

The Electricity Consumption Data that will be accessed from smart meters and which will be stored in aggregated form by SSEN in support of its Regulated Duties comprises of the following;

- Half-hourly Active Electricity Import consumption (DCC Service Request 4.8.1);
- Half-hourly Reactive Electricity Import consumption (DCC Service Request 4.8.2); and
- Consumption data from ad hoc or scheduled DCC service requests such as 'Read Daily Consumption Log' and 'Read Instantaneous Import Registers'.

Consumption data format

SSEN will routinely run a system automated monthly collection of data that will retrieve from domestic premises or Meter Point Administration Numbers (MPANs) the following;

- Total monthly consumption of each MPAN, (which does not relate to a period of less than one month); and
- Monthly consumption profile for each customer (or MPAN) connected to a LV feeder and/ or distribution transformer with half-hourly consumption profiles aggregated from the associated multiple MPANs on the LV feeder and/ or distribution transformer.

Consumption data relating to individual premises will never be stored by SSEN and will be deleted following aggregation, the aggregated consumption data will be stored securely and will be used solely to support its Regulatory Duties.

Period over which consumption data is collected

Every month SSEN will collect and store a monthly total of half-hourly consumption data from individual MPANs and half-hourly consumption data from each MPAN associated to a LV feeder and/ or distribution transformer.

SSEN will securely store aggregated consumption data for the ongoing planning and operation of its network for a period of seven years.

Consumers consumption data collected

SSEN will collect consumption data from domestic customers at relevant premises that have a smart meter enrolled into the DCC services.

Purpose for collection of consumption data

Electricity Consumption Data will only be collected by SSEN to comply with its Regulated Duties to develop

and maintain an efficient, co-ordinated and economical system of electricity distribution.

In summary, Electricity Consumption Data will be used by SSEN to plan, develop and manage its Low Voltage (LV) networks more efficiently, and ensure that new low carbon technologies can be connected efficiently and economically without affecting supply to existing customers, and where possible avoid the need to reinforce its network.

Please refer to [Appendix I](#), for a diagram of SSEN's process for collecting consumption data to support this section.

9 Ofgem Criteria 2 – Why SMART Meter Data?

Explain how smart metering data favourably compare to traditional electricity consumption data in terms of feasibility, cost effectiveness and efficiency in achieving the purposes described in our first criterion, and provide any supporting quantification of the benefits that could be delivered for different groups through access to this data (e.g. network benefits, Customer benefits, future development of smart grids etc.)

Consumption data used today

Traditional Electricity Consumption Data which SSEN obtain today is a total annual value of consumption provided by Energy Suppliers and does not provide granular visibility of the true loading to accurately determine the need to reinforce the network or whether there was sufficient capacity to support new demand requests whilst ensuring network resilience.

When undertaking new customer connection assessments, SSEN uses data and information which is currently available from the higher voltage networks to assess the current demand on the network. If this assessment states that an 11kV feeder has 1MW of

demand and 100 customers, the assumption made is that each customer will consume 10kW at the peak time recorded.

This will give SSEN a good assessment on the network. However, this doesn't provide the most accurate reflection for the network study as it is unlikely that the spread of demand is as even as estimated.

Smart Meter consumption data of tomorrow

Half-hourly consumption data for the LV feeder and/or distribution transformer will be available based upon its network connectivity model and the collation of over 130,000 LV feeders with the associated MPANs, this will provide SSEN with granular consumption profile data across its network and will be used by multiple business teams when planning and managing its network.

On SSEN's low voltage networks, access to more granular consumption data will provide better visibility of the areas of network where network loading may be approaching capacity enabling proactive measures to be applied.

Benefits from use of consumption data

The benefits accumulating from Network Operators using the detailed consumption information available from smart meters to plan and operate its networks more effectively have been quantified in the "Review of Analysis of Network Benefits from Smart Meter Message Flows", Version 1.0 of 1 July 2013 published by the Energy Networks Association (ENA).

A copy of this report is available on the [ENA Smart Metering webpage](#).

We also refer to the government's own cost benefits analysis of the benefits Network Operators are expected to obtain and described in the "Smart Meter Roll-Out Cost-Benefits Analysis (Part II – Technical annex)" of August 2016 published by the

Department for Business, Energy & Industrial Strategy (BEIS).

A copy of this report is available on the [BEIS.gov.uk](https://www.beis.gov.uk) webpage.

The benefits associated to SSEN accrue from:

- Avoided or deferred network investment, principally at the LV and HV network levels;
- Quality of service benefits.

Customers should benefit from:

- Greater efficiency, driving lower network costs and lower bills;
- Better performance and network management reducing the frequency and duration of both planned and unplanned losses of supply;
- Improvement to customer service; and
- Less disruption from reduced need to reinforce networks.

In addition to these benefits, as the penetration of smart meters increase towards the end of the roll-out programme and new technologies evolve associated with reducing carbon emissions and changing energy use, it is likely that other benefits will emerge facilitated by the capabilities of smart meters as part of a transition to the application of smart grid technologies.

SSEN has already implemented its smart meter DCC Adapter called the Networks DCC Access Gateway (NDAG) application to communicate with the DCC and smart meters. The NDAG will also control SSEN's aggregation process. The NDAG has been implemented as part of the government's smart meter programme and therefore obtaining data using the NDAG is cost effective as opposed to introducing new technologies, systems or processes to achieve similar results.

Through assessment of its low voltage network and the number of MPANs attached to each LV feeder and/ or distribution transformer SSEN has identified aggregating to five or more MPANs will provide access to consumption data from 98.5% of its LV feeders in Southern Electric Power Distribution (SEPD) area and 92.1% in its Scottish Hydro Electric Power Distribution (SHEPD) area. For the remaining LV feeders with less than five MPANs SSEN will not be obtaining this data unless they can be aggregated with customers MPANs on other LV feeders supplied from the same transformer. The minimum aggregation level in all circumstances will be five MPANs.

SSEN is a unique DNO regarding its operating areas which are located North and South of the UK. SHEPD heavily rural with a low density of customers on an LV feeder. SEPD a far greater density of customers on both a rural and urban LV feeders. The two operating areas SEPD & SHEPD must be amalgamated to satisfy the compilation of SSEN's Data Privacy Plan aggregation method.

Whilst evaluating the number of MPANs to aggregate, SSEN placed the customers anonymity unquestionably in the forefront decision. Aggregating to a low number of MPANs and the possibility of individual customer trends being identified increases, too high the accuracy and usefulness of half-hourly consumption data starts to degrade.

Taking in to account SSEN's unique operating areas, and customer anonymity, a desktop exercise was carried out. It was agreed that the choice of five MPANs, aggregated, per LV feeder and/ or distribution transformer would satisfy the aforementioned factors.

When carrying out network planning, or new connections work on an LV feeder of four to two MPANs the half-hourly consumption data can be achieved through scaling. Data will be taken from similar feeders, locations, customer profiles with five MPANs and scaled to provide the required

information ensuring customers on LV feeders of less than five MPANs receive the similar benefits.

One MPAN is classed as a “single service” and any works required would be deemed a connection request and dealt with accordingly.

Consumption data can also be acquired from a Commercial property, if available, assisting the scaling of LV feeders with less than five MPANs. Commercial property data can also support decision making from LV feeders with five or more MPANs.

Please refer to [Appendix B](#) charting the number of customer MPANs attached to each of SSEN’s LV feeders and the network coverage aggregating to five MPANs will provide.

SSEN have two benefit Use Cases that will incorporate consumption data into network planning, new connections and decision making of investments.

Use Case - Network Planning and Investment

- Half-hourly consumption data will provide greater visibility to ascertain network capacity constraints and decide as to whether reinforcement is required;
- More granular visibility will allow SSEN to operate more efficiently and maximise the true capacity of each section of the network; and
- Reduce the need to reinforce or defer reinforcement on parts of the network therefore minimising costs to its customers.

The use of actual aggregated consumption data will enable identification of circuits which are approaching their thermal capacity and require intervention. Consumption data will allow these issues to be identified more accurately than using assumed or average consumption profiles.

Consumption data on an LV circuit will enable better modelling predictions of circuit loading, which may enable the use of smart solutions such as demand-side response in more instances.

Use Case - New Connections and Upgrades

- Process new connection and load increase requests more efficiently and promptly;
- Half-hourly consumption data will provide greater visibility to ascertain network capacity constraints and decide whether reinforcement is required to support a request;
- More granular visibility will allow SSEN to operate more efficiently and maximise the true capacity of each section of the network; and
- Reduce the need to reinforce or defer reinforcement on parts of the network therefore reducing costs.

New customer connections (or additions of LCT to existing customer connections) trigger reinforcement if they cause existing LV networks to exceed thermal capacity or voltage limits, based on estimates of capacity. The use of aggregated demand profiles for a specific LV circuit enables accurate assessment of load and in some cases may enable avoidance of circuit reinforcement.

When a request from a customer is received for any new connection or increase in load for single or multiple properties, the request is received by the Connections team to understand the Customers demand requirements as well as the network capacity and current loading to support such a request.

During the connection request process, when determining the networks loading, data from smart meters will be used to provide better visibility and granularity, through data such as maximum demand, half-hourly consumption and voltage. Together this

information will enable SSEN’s Connections team to provide more accurate quotations and whether a request can be supported without reinforcement.

Financial benefits

Financial benefits derived specifically from smart meter consumption data and directly available to SSEN are detailed in its [“RIIO-ED1 Business Plan - Smart Metering Strategy”](#) document. Table 1 is an extract of those benefits and categories.

Table 1 (Benefits & Categories)

Category	Nature of Benefit	Basis of Derivation	ED1 Benefits (2015 to 2023)
Proactive Planning of HV & LV networks	Better informed load-related investment decisions	DPCR5 baseline for HV & LV general reinforcement	£1.34m
	Reduced investment to serve new connections	DPCR5 baseline for demand connections	£1.24m

10 Ofgem Criteria 3 – Data Assurance.

Provide assurance that any commercial use of the data by the DNO or third parties is excluded from these purposes, both before and after the data anonymisation.

SSEN has a focussed purpose to develop, maintain and operate an economical, efficient and co-ordinated system of electricity distribution. The regulatory framework restricts SSEN from gaining commercially from regulated assets.

Limitations of the use of consumption data.

Licence condition clause 10A.9(a) limits a DNO using Electricity Consumption Data to fulfilling its Regulated Duties, including to collect and maintain information

and knowledge about the demand on, the supply through and the performance of its networks.

SSEN will only ever use half-hourly consumption data to undertake its Regulated Duties. SSEN will not seek to commercialise any value contained in the data.

SSEN have set out clearly in this DPP how it intends using the data and provide assurance that any commercial use of the data by SSEN or third parties is excluded from these purposes.

SSEN has strict policies in place to ensure all employees adhere to the use of, and access to consumption data, internally and third parties.

SSEN may use aggregated information and statistics in order to help develop its services and may provide such aggregated information to external third parties for Regulatory purposes through external studies, projects or innovations. These statistics will not include information that can be used to identify any individual and will only contain aggregated LV feeder and/ or distribution transformer total consumption profiles.

Consumption data will not be used for commercial gain, selling or marketing purposes.

Only authorised employees will have access to consumption data and will undertake training to ensure the limitations of and policies surrounding obtaining, using and storing data is fully understood.

System security measures and policy controls prevent unauthorised access to systems and data.

Competition in Connections.

To facilitate SSEN’S Competition in Connections Code of Practice (Licence Condition 52) SSEN will provide Input Service on an equivalent basis to all Connection Parties that operate in the Local Connections Market. Half-hourly consumption data aggregated to a LV feeder and/ or distribution transformer will be made

available to Independent Connection Providers (ICPs) and Independent Distribution Network Operators (IDNOs) in line with SSEN's published policy.

Access to the aggregated half-hourly consumption data by ICPs and IDNOs will be granted in-line with SSEN's Competition in Connections policy and to authorised users only.

Under SSEN's terms and conditions of access to its Network information, ICPs and IDNOs are not permitted to;

- Share with or sell the documentation to any third party;
- Use the information and documentation for any purpose other than determining a suitable Point of Connection; or
- In any other way make the information or documentation available to a person not employed by that ICP or IDNO business without the prior agreement of SEPD or SHEPD. Usernames and passwords are unique to individuals and must not be shared with any other individual or third party. SSEN will monitor use of the account provided and store data on its use.

Third Party Use and Privacy Notice

SSEN is committed to ensuring privacy is protected. SSEN will publish on its website an updated Privacy Notice that explains how SSEN use information it collects from electricity smart meters and sharing with third parties.

Please refer to [Appendix H](#) for SSEN's draft Privacy Notice.

11 Ofgem Criteria 4 – Electricity Consumption Data Life Cycle.

Explain clearly how, where, when and by whom collation, maintenance, use and deletion of the data would take place securely and cost-effectively (these steps form what is referred to as 'Electricity Consumption Data life cycle' in the ENA's Generic Privacy Framework).

SSEN's consumption data life cycle includes;

- Grouping MPANs from LV feeder and/ or distribution transformer;
- Collection of half-hourly and monthly totals of consumption data each month from MPANs;
- Aggregation of consumption data within SSEN's DCC adapter NDAG application;
- Permanent deletion of responses containing individual half-hourly consumption data following aggregation; and
- Secure storage of LV feeder and/ or distribution transformer and monthly consumption data.

Collation of consumption data

On a monthly basis MPANs associated with each of SSEN's LV feeder and/ or distribution transformers will be grouped from its Outage Management System (OMS) and sent to its DCC adapter NDAG application to form multiple grouped service requests and sent to each meter to obtain the half-hourly consumption data.

SSEN's DCC adapter NDAG application will receive the responses and aggregate as soon as reasonably practical.

The LV feeder and/ or distribution transformer aggregated consumption data is then stored in its secure data storage application.

Please refer to [Appendix I](#), for a diagram of SSEN's process of collecting consumption data to support this section.

Maintenance of consumption data

Smart meters record and store consumption data. SSEN will be obtaining consumption data directly from meters once a month and following aggregation will be stored for seven years.

Use of consumption data

Access to the DCC adapter NDAG application is restricted to a dedicated smart meter team, the team consist of 6 employees dedicated to smart metering. The team are the only employees that currently have access to the DCC adapter NDAG application used to send DCC service requests and receive the responses for consumption data. SSEN have an internal policy to restrict access to only its smart meter team, any requests for access to the DCC adapter NDAG application would follow this policy and be rejected if the employee is outside of the smart meter team.

If the request is for a new member of the smart meter team this policy also ensures the employee is security screened to BS7858 in line with the Smart Energy Code and has been through the appropriate training on the regulatory licence condition restricting access to consumption data.

The team monitor and manage the smart systems, processes and information. Once the DCC adapter NDAG application has completed the aggregation process only the total LV feeder and/ or distribution transformer half-hourly profile data will be separately stored. The stored data is available to our business teams responsible for the benefits realisation and accessed through its data storage repository application. Stored data is also presented on our website portal for authorised ICP's and IDNO's in line with our Competition in Connections obligations.

Access to the data storage application is managed through the smart meter team and only employees that require the aggregated profile data for legitimate business needs relating to our benefits realisation plans such as our connections and network planning teams will be authorised access. The consumption data held in the data storage repository will only be aggregated LV feeder and/ or distribution transformer data.

SSEN will not provide or allow access to the stored LV feeder and/ or distribution transformer profile data to anyone outside of SSEN.

All user activity is recorded by SSEN's DCC adapter NDAG application with quarterly audits of user access, permissions and activity conducted by the smart meter manager.

Please refer to [Appendix C](#) for SSEN's user access request policy.

Subject Access Requests (SAR)

SSEN has internal procedures for dealing with all SAR requests, and specifically for smart meter consumption data processing.

- Right to Restrict or Object to Processing Procedure.
- Right to Erasure Procedure
- Subject Access Request Procedure
- Smart Meter consumption data requests

If a customer request to restrict processing was received, SSEN would suspend processing until the request has been assessed pending acceptance or rejection.

Please refer to [Appendix L](#) for its procedure on Subject Access Requests made regarding the processing of smart meter data.

Deletion of consumption data

SSEN's DCC adapter NDAG application will permanently delete the disaggregate data as soon as the aggregation process has completed. Disaggregated consumption data will not be visible or accessible to users or reside within any systems.

Typically, the system will take several minutes to process the response, aggregate and delete the individual unaggregated data.

- Depending on DCC delays or timeouts. The system must wait for the DCC requests to return all the responses, then unpack each response, check several validation parameters, aggregate the whole response, provide the final aggregated output for the user and then delete the unaggregated encrypted and decrypted data. The full process takes between 2-6 minutes.
- If we are to consider the time it takes to delete the unaggregated encrypted and decrypted data following the aggregation process, this takes seconds and is included within the 2-6 minutes full processing time.

Aggregated LV feeder and/ or distribution transformer consumption data stored within its data storage application will be permanently deleted after a rolling seven year period from the date it has been collected.

SSEN need to store this data for a period of seven years to ensure historical data is available for planning the future growth of load, in particular through the uptake of low carbon technologies and the impact on the low voltage network this can have.

It is also important historical data is available throughout the RIIO-ED2 regulatory period (five year period), and for a two year period following the closure of RIIO-ED2 for subsequent queries or analysis either by SSEN or Ofgem.

SSEN believe seven years data storage is the right balance to fulfil its regulatory requirement to develop and maintain efficient, co-ordinated and economical systems for the distribution of electricity and is stored for no longer than is necessary.

Please refer to [Appendix A](#) for SSEN's process of aggregating and deleting disaggregated consumption data and [Appendix J](#) for SSEN's aggregation process and deletion time.

12 Ofgem Criteria 5 – Data Anonymisation

Demonstrate that consideration has been given to the best available techniques for minimisation, aggregation, anonymisation and/or other treatment of data. The ICO's Anonymisation Code of Practice should be used, among other sources, to inform the data anonymisation processes adopted.

To inform the data de-identification processes that can best be adopted, SSEN has referred to the [ICO's Anonymisation Code of Practice](#) and other sources, including the publication '[The Anonymisation Decision-Making Framework](#)' (which is a practitioner's guide to implement the ICO's Anonymisation Code of Practice) where necessary.

In reviewing the ICO Anonymisation Code of Practice to determine the best available techniques, such as "Data masking", "Pseudonymisation" and "Aggregation", SSEN chose the "Aggregation" technique as it is relatively low risk because it will generally be difficult to find anything about a particular individual by using aggregated data, especially when small numbers of MPANs are omitted from the collection process.

The approach, level of aggregation and the outcome is a compromise between best available techniques for Personal Data protection and the practical use of

the data which drives the initial requirement to access it.

Techniques for data minimisation

SSEN has conducted analysis on the level of consumption data required to perform its Regulatory Duties and optimise visibility of consumption profiles on its LV feeders and/ or distribution transformers. This will ensure SSEN only process the minimum amount of data necessary.

Please refer to [Appendix B](#) charting the number of customer MPANs attached to SSEN's LV feeders and the network coverage aggregating to five MPANs will provide.

Consumption data that SSEN stores will contain the aggregated half-hourly and monthly profile of each LV feeder and/ or distribution transformer. SSEN will not be storing any individual customers half-hourly consumption profile data following aggregation, which reduces the risk of individual customer usage profiles being identified

Techniques of anonymisation and aggregation

The ICO Anonymisation Code of Practice identifies that aggregation is a relatively low risk, especially when small numbers of MPANs are omitted. SSEN will be removing in all cases of processing any requests containing less than five MPANs and will use system aggregation as the preferred method.

SSEN's DCC adapter NDAG application is subject to the Smart Energy Code Security Control Framework and annual User Security Assessments. Its DCC adapter NDAG application has been designed to perform its aggregation of consumption data. This application has been developed and implemented as part of the overall Smart Metering Programme's requirement to connect to the DCC. SSEN believe it is therefore cost effective and suitable to use this existing application for the purposes of aggregation.

Process of aggregation

SSEN will assign each aggregated half-hourly consumption value to a specific point on its network using a unique identifier so that the data can be linked to network assets. Without the ability to link the stored data to network assets the data would be of limited value.

SSEN will aggregate half-hourly consumption data to LV feeder and/ or distribution transformer totals, and where the volume of MPANs is less than five SSEN will not collect any data from those LV feeders unless they can be aggregated with customers MPANs on other LV feeders supplied from the same distribution transformer. The minimum aggregation level in all circumstances will be five MPANs.

Where a single LV feeder has less than five MPANs SSEN will not collect consumption data from those MPANs in isolation. There maybe occasions when combining less than five MPANs from one LV feeder with MPANs from another LV feeder on the same transformer which collectively increases the total MPANs to five or more is necessary.

In this situation the same system aggregation process and privacy controls will apply in that SSEN's system will not allow overlapping time periods for the same MPAN to be collected through repeat attempts within twelve months.

The responses will be aggregated and deleted following the aggregation and deletion process between 2-6 minutes and in the same way as our typical LV feeder aggregation process.

Refer to [Appendix K](#) for SSEN's approach to aggregation of multiple LV feeders.

As soon as SSEN receives the responses from requests for half-hourly consumption from each MPAN on a LV feeder and/ or distribution transformer, its DCC adapter NDAG application will aggregate the responses into groups of half-hourly values of all

MPANs aggregated. The full aggregation and deletion process is completed between 2-6 minutes. Unaggregated encrypted and decrypted individual half-hourly consumption data is deleted within seconds and included as part of the 2-6 minute aggregation and deletion process shown in [Appendix J](#). SSEN will never hold unaggregated consumption data for longer than the processing and deletion time. There will be no system record or user visibility of the un-aggregated encrypted or decrypted individual consumer half-hourly consumption data.

The aggregated LV feeder and/ or distribution transformer and monthly totals data will reside in its data storage application which contains the network asset reference and aggregated totals. SSEN will not be associating names or addresses to its aggregated LV feeder and/ or distribution transformer consumption data.

[Redacted]

Please refer to SSEN's three appendices that provide examples of its aggregation and deletion process.

[Appendix A](#) for SSEN's Service Request Response (SRR) aggregation and deletion sequence.

[Appendix D](#) for SSEN's full DCC adapter NDAG application aggregation and deletion process.

[Appendix I](#) for SSEN's End2End aggregation and deletion journey.

13 Ofgem Criteria 6 - Privacy Impact Assessment.

Be accompanied by a Privacy Impact Assessment, consistent with the ICO's code of practice.

SSEN has conducted a Data Protection Impact Assessment (DPIA) consistent with the ICO's code of practice, please refer to [Appendix E](#) for SSEN's DPIA.

SSEN's DPIA was developed internally through engagement with its Data Protection Officer, Legal teams and GDPR experts.

The outputs and recommendations from the ENA commissioned research by legal firm CMS on the impacts of GDPR on DNO's access to consumption data was considered in the final version of its DPIA.

14 Ofgem Criteria 7 – Conformity to ISO Standards.

Demonstrate the conformity of the adopted IT security process to the ISO 27001 and ISO 27005 standards in order to exclude any possibility of the DNO re-associating the granular data to a premise after its anonymisation has been achieved.

SSEN is subject to compliance with the Smart Energy Code through User Entry Process Testing (UEPT) to demonstrate its DCC adapter NDAG application sends and processes messages in the specified secure format prior to becoming a live DCC user.

The Smart Energy Code also requires SSEN to be assessed annually by the User Independent Security Assurance Service Provider for compliance, which includes but is not limited to, ISO standards, Information Security Management System (ISMS) and management of security risks.

To date SSEN has successfully completed each annual User Security Assessment.

Prior to designing its approach to safeguarding consumption data, and the likelihood of re-associating individual Customers consumption profile, SSEN considered various studies and guidance from the following publications.

- [ICO's Anonymisation Code of Practice](#)
- ENA commissioned: [EA Technology Smart Meter Aggregation Assessment](#)

- UK Anonymisation Network "[The Anonymisation Decision-Making Framework](#)"
- ENA commissioned: Generic Privacy Framework

Utilising the information and guidance from these publications, SSEN's aggregation design includes checks and validation to reduce the risk of data being re-associated to a level of granularity that could identify individual half-hourly consumption profiles.

When a request for consumption data is generated from SSEN's DCC adapter NDAG application a number of checks and validations are conducted by the system automatically to reduce the risk of data being re-associated such as;

[Redacted]

To ensure compliance and ongoing reviews SSEN has implemented the following;

- Implemented an Information Security Management System (ISMS) that conforms to ISO27001 and ISO27005. SSEN's ISMS was developed and implemented by expert security consultants and audited for conformity to ISO27001 and ISO27005 through internal and external audits and the Smart Energy Code (SEC) appointed User Independent Security Assurance audit. The SEC appointed audit is mandated and assesses conformity to ISO27001 and ISO27005. SSEN monitor and maintain conformity through annual SEC audits, annual reviews of its ISMS, quarterly internal smart security governance groups, and appointed a dedicated smart metering security manager. SSEN's data centre services where its smart meter infrastructure is located are certified to ISO27001:2013.

Please refer to [Appendix M](#) for SSEN's ISO27001:2013 Certificate.

- Internal policy specifically for users accessing or requesting consumption data to ensure the data

is protected and only accessed and used by authorised employees. Only a small number of employees in the smart meter team have access to SSEN's DCC adapter NDAG application which is the only system used to request, aggregate and delete consumption data;

- Introduced staff training prior to permitting access to SSEN's DCC adapter NDAG application which includes learning about its Licence Condition SLC10a, restriction on accessing and using consumption data, importance of safeguarding consumers individual data and checks to ensure BS7858 security screening has been conducted;
- Dedicated Smart Meter Security Manager responsible for its ISMS policies and procedures;
- Dedicated Smart Meter Team that are the only employees authorised to access SSEN's DCC adapter NDAG application and specifically trained on Smart Energy Code obligations and Ofgem standard licence conditions;
- Internal audits, specific to ISO 27001 and SEC compliance; and
- Formed an internal Smart Security Governance Group to discuss all aspects of smart meter security and threats.

System Security and Controls.

Data transfers that use the DCC gateway are protected using data encryption, data integrity and access control technologies. Data encryption and access control standards are mandated by the Smart Energy Code that spans both the DCC and SSEN. Compliance with these standards by both parties is subject to annual, external Audit compliance. To summarise the controls in place:

[Redacted]

Please refer to [Appendix F](#) for SSEN’s Information Security Management System (ISMS) policies and procedures.

15 Ofgem Criteria 8 – Stakeholder Engagement.

Demonstrate that, in developing its privacy plan, the DNO has engaged constructively with relevant stakeholders, including Customer groups and those with expertise in approaches to data privacy. The DNO must provide details about the output of such engagement, including how it has responded to the feedback in refining its data privacy plans.

SSEN has undertaken Stakeholder Engagement internally and externally to enable construction of its DPP in accordance with the required output.

External Engagement

Through the ENA, SSEN have engaged with the UK Anonymisation Network (UKAN) to feed into the Generic Privacy Framework and help understand best practices and methods for safeguarding data.

ENA commissioned expert legal research and analysis by legal firm [CMS](#) on the impacts of GDPR on licence condition SLC10a and access to half-hourly consumption data. SSEN used this research to develop its Data Privacy Plan.

SSEN supported the work ENA commissioned to create a Generic Privacy Framework as a template for all DNO’s to help develop and submit their own specific DPP submission. In the development of this framework ENA engaged Ofgem, BEIS and the ICO.

In addition, ENA commissioned Ipsos MORI (16 March 2017) to hold study groups throughout Great Britain and understand consumers’ attitudes towards DNO’s access to half-hourly consumption data.

The Ipsos MORI research study report can be viewed on the following ENA website.

[“Customer attitudes to DNO access to Half-hourly Consumption Data”](#).

SSEN used the research conducted by Ipsos MORI to feed and develop understanding for its own Data Privacy Plan.

Additionally, SSEN conducted its own Stakeholder Engagement studies, using Ipsos MORI to build upon the Generic DNO sessions and deliver SSEN specific research on SSEN’s approach and to seek views of consumers.

Ipsos MORI were commissioned by SSEN to carry out both qualitative and quantitative research studies, due to the experience gained from the previous engagement and to ensure continuity of results gained from both interactions.

Overall this study aimed to understand Customer attitudes to SSEN accessing half-hourly Electricity Consumption Data contained in smart meters, and within the scope of the data access and privacy framework. This research has explored:

- Customer attitudes to SSEN accessing half-hourly consumption data under the SLC10A;
- Customer reactions, and any perceived risks or reassurance needed around the proposed safeguards, including for data security and anonymity;
- How Customer reactions are affected by their level of awareness and understanding of the role and remit of SSEN and the user benefit-cases of access to this data; and
- Whether consumers’ attitudes differ depending on the granularity of the data (testing the proposition of aggregation at the level of five homes)

Ipsos MORI Qualitative Study 2018

The research consisted of six extended focus groups across SSEN's two geographic regions (Central Southern England and Northern Scotland). The discussions were moderated by Ipsos MORI researchers.

At the beginning of each discussion group, the Ipsos MORI moderator delivered education on the role and activities of a Network Operator and information on the smart meter project. This helped ensure each group was familiar with key background pieces of information in order to facilitate a more informed and in-depth debate around SSEN data access. The initial materials developed by Ipsos MORI were finalised in close collaboration with SSEN (building on materials designed and tested through the previous study for ENA).

The discussion groups focused on exploring levels of acceptability for SSEN to access half-hourly Electricity Consumption Data from smart meters. The Privacy Framework was not presented to participants, but the discussion explored reactions to the principles on which SSEN may access this data under the terms of their license conditions – including detailed debate of the various levels of safeguard and the perceived benefits.

Please refer to [Appendix G](#) for the final report of SSEN's Ipsos MORI Stakeholder Engagement Research Study.

Ipsos MORI Stakeholder Engagement Primary findings;

- Most participants engaged in this research responded positively to SSEN accessing half-hourly Electricity Consumption Data for the purposes of making better planning and investment decisions.
- Most do not see electricity data as sensitive information and so have relatively few concerns about SSEN accessing it for the purposes stated to consumers during the research.
- Participants generally expressed trust in both SSEN, and the wider governance system, that would sit around this data access.
- While data loss or hacking, incidents were raised by consumers as a potential reality, they were not unduly worried by this and it did not affect their overall response to the proposition.
- Consumers engaged in SSEN regions were, in general, supportive of the proposition to aggregate at the level of five homes – considering this to provide suitable reassurance over anonymity but providing a step-change in the granularity of information available to SSEN. There were some consumers who would be comfortable with SSEN accessing their individual household data (which is not being proposed by SSEN but serves to indicate the level of comfort some consumers expressed spontaneously on this issue).
- There were, however, a few who remained unsure of the value to SSEN of access at this level (as opposed, for example, to the level of a Transformer which could serve several hundred customers). This was not active disagreement with this proposition however, but indicative of a desire to understand in more detail the value of this level of data access. It also occasionally, related to a reluctance for smart meters to be the tool used to access this data, even where SSEN access to this information was considered beneficial for the network and consumers.
- Where a few consumers were less supportive of SSEN accessing consumption data this related to their pre-existing attitudes to smart meters; negative perceptions of the roll-out were found to strongly effect attitudes even where the same

consumers were positive about the use-cases for SSEN, and trusted SSEN as an organisation.

Ipsos MORI Quantitative Study 2019

This quantitative research builds on a qualitative research project conducted for SSEN in 2018. The 2018 research was commissioned to support SSEN in their submission to Ofgem under SLC10A. This license would grant SSEN access to aggregated smart meter data. The 2019 research provides further quantitative data to build on the findings from the qualitative research, which showed that in general consumers were open to the idea of SSEN accessing half-hourly smart meter data, and generally felt comfortable with the aggregation process. There was a small group of customers who were less comfortable.

The quantitative study, in particular, aimed to measure:

- Attitudes towards perceived sensitivity of electricity consumption data
- Consumer attitudes towards SSEN accessing half-hourly electricity consumption data
- The extent to which consumers understand and accept benefits of SSEN accessing half-hourly electricity consumption data

In addition to the above core objectives, the survey captured levels of consumer awareness of SSEN, as well as whether a smart meter has been installed, or is booked to be installed; these were both found to be important factors related to attitudes around SSEN access to half-hourly data in the qualitative research.

The research consisted of a short online survey of 1,000 participants who live within SSEN's license areas (via an online panel), as identified by their postcodes in Central Southern England and Northern Scotland.

Participants could be anyone aged 18+ living within postcodes serviced by SSEN. Participants entered their postal code to confirm their address, and only those living within postal codes served by SSEN were able to respond to the survey.

750 responses were obtained from the Southern England license area, and 250 responses from the Northern Scotland licence area. This split was selected to be reflective of the amount of houses served by SSEN in the two areas.

Quotas on age and gender were applied during the fieldwork stage which were based on ward-level demographics. This demographic data was obtained from Office for National Statistics (ONS) and wards within SSEN's license areas were selected. This data was obtained for both the Southern England and Northern Scotland license areas.

Please refer to [Appendix N](#) for the final report of SSEN's Ipsos MORI Stakeholder Engagement (Quantitative) Research Study.

[Ipsos MORI Stakeholder Engagement Primary findings;](#)

- **Participants were generally comfortable with the idea of SSEN accessing smart meter data (71%).** This is consistent with the findings from the 2018 qualitative research, wherein participants in general felt happy for SSEN to access data from smart meters.
- The levels of comfort with SSEN accessing smart meter data **are comparable with levels of comfort with electricity suppliers (70%)** accessing smart meter data; this is notable because suppliers have already been granted access to the data. The results from the quantitative research suggest that participants **understood the reasons for SSEN accessing smart meter data**, including the **benefits that access to this data**

could bring. These results were **similar across both North and South** licence areas.

- There is a group of customers who are particularly **comfortable with, and open to, SSEN’s proposal to access half-hourly electricity data from smart meters**. This group are more likely to have a smart meter, feel smart meter data is not sensitive, and be positive about the smart meter rollout bringing benefits. This is consistent with findings from the qualitative research.
- While the qualitative research found that older groups across a range of social grades were less comfortable with SSEN accessing smart meter data, there was not a significant difference in level of comfort by age in the quantitative research.
- **Making improvements to the service** by quickly identifying power outages and ensuring the network can service the homes is the most important priority to SSEN customers. The majority of participants also understood the importance of half-hourly smart meter data in **helping SSEN to make better investment decisions**, valuing the opportunity to make the network more efficient. These aspects could be important for any future communications with customers.
- Only using the data for the reason it has been obtained, and not selling this data on, is one of the most important factors for the majority of participants. **Reassuring customers about this** may support SSEN in any future communications.
- Interest, in principle; Most participants thought it would help to know more about SSEN. They would like information to help understand what SSEN are responsible for, which they felt could help consumers accept the reasons for data access.
- As long as kept simple and focused; The information would have to be clear and easy to read. The communications could explain the benefits that could be achieved through access to smart meter data.
- Ideally engaging format; Some were against an SSEN mailing, acknowledging it would not be read. A few suggested SSEN representatives attend community meetings or increase their social media presence.
- Consider most relevant timing; One participant suggested that when a smart meter is installed, it could be explained who else can benefit from the data collected, such as SSEN. This could help to explain who SSEN are in context.

Incorporating the Ipsos MORI Engagement Learning Points. SSEN will implement the following.

- Update SSEN’s website page dedicated to smart meters to include information on how SSEN will use the data, the type of information it receives from smart meters and benefits to consumers and SSEN;
- Utilise its Social Media platforms to provide information on SSEN’s role and use of smart meter data and interactive communication with customers;
- Training to its front line Customer Contact Centres providing consistent information when engaging customers; and
- Publishing SSEN’s Privacy Notice on its website to include information on smart meters. Please refer to [Appendix H](#) for SSEN’s draft Privacy Notice.

Ipsos MORI Stakeholder Engagement Learning Points.

As part of the engagement Customers were asked what, if any, communication they would like to see from SSEN. The response was that there is an appetite for further information from SSEN to customers.

SSEN's website smart meter page is located at the following address;

<https://www.ssen.co.uk/innovation/smartmeters/>

16 Data Privacy Plan Review

SSEN will conduct annual reviews of the compliance and effectiveness of its approved Data Privacy Plan or when SSEN propose to make material changes.

Any material changes will result in a resubmission of its plan to Ofgem.

Glossary of Terms

Term	Definition
Consumption Data	Profile of customers electricity consumption at various intervals of the day
DCC	Data Communications Company that manages the data and communication networks
DCC Adapter	DCC Defined application that SSEN use to communicate with the DCC and meters
DUOS	Distribution Use of System Charges
HV	High Voltage
ISMS	Information Security Management System, policies and procedures to manage information and system risk assessment and treatment
LCT's	Low Carbon Technologies
LV	Low Voltage
LV Feeder	Low Voltage Feeder that typically supplies electricity to the cables or overhead lines running down the street to customers properties.
MPAN	Meter Point Administration Number
OMS	Outage Management System (used by SSEN to manage power cuts, connectivity model of where customers are connected to on our network)
SEC	Smart Energy Code
SEPD	Southern Electric Power Distribution
Service Requests	DCC Defined requests made from SSEN's DCC Adapter NDAG application to the DCC and to meters
SHEPD	Scottish Hydro Electric Power Distribution
Substation	Controls the voltage and distributes electricity

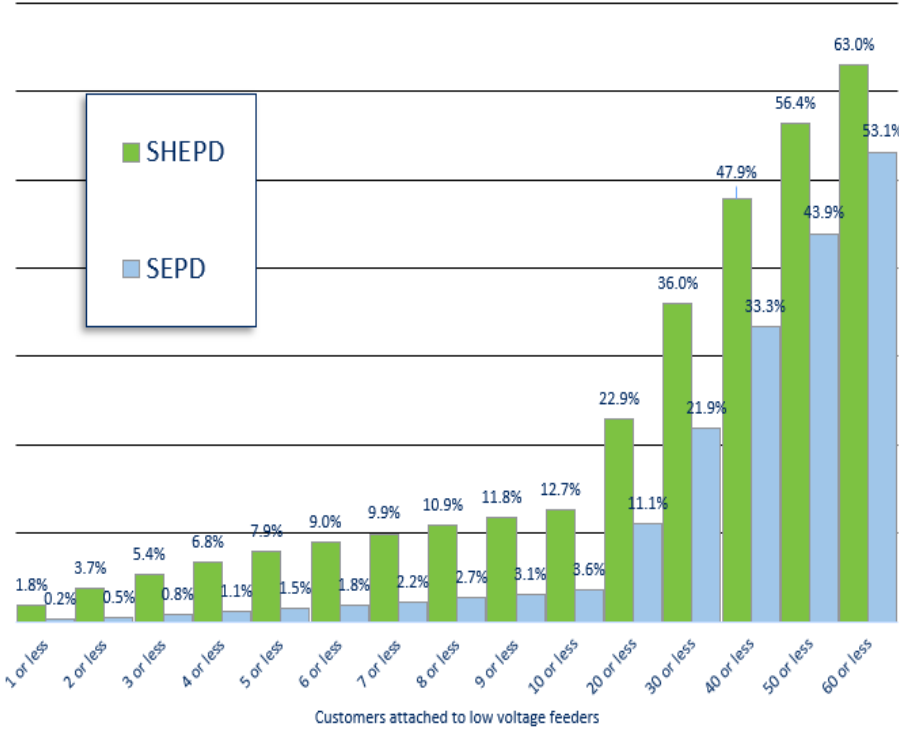
Appendix A System Diagram of Aggregation & Deletion

When consumption data requests are sent to meters, the responses will be aggregated in the DCC Adapter NDAG application upon arrival, un-aggregated data will be permanently deleted as soon as a reasonably practical. This is because the initial Service Request Response (SRR) contains un-aggregated individual customer's consumption data that is subject to OFGEM's standard licence condition (SLC10a).

The below diagram explains the process within SSEN's DCC Adapter NDAG application of how the SRR is received, validated, unencrypted, aggregated and destroyed to comply with SLC10a.

[Redacted]

Appendix B LV Feeder Network Profile



Why five MPANs?

To realise benefits our Network Planning and New Connection Teams identified the level of MPAN granularity required.

Based upon network coverage of customers connected to our Low Voltage networks, differing from our licence areas in north of Scotland (SHEPD) and central southern England (SEPD), five MPANs aggregated is the optimal level agreed to realise benefits.

Five MPANs aggregated will provide;

- 98.5% coverage SEPD
- 92.1% coverage SHEPD

Appendix C User Account Process

Purpose

This explains the process for how user requests are authorised and granted access to the SSEN smart metering, Networks DCC Access Gateway (NDAG) application. There are also roles within SSEN smart metering called Authorised Responsible Officers (ARO's) that are authorised by the SSE CEO or Company Secretary to have USB token access and locally installed software that allows secured access to external smart metering systems in compliance with our SEC obligations.

The NDAG application is the way SSEN communicate with smart meters. Access to the NDAG is strictly controlled to comply with the SEC obligations to ensure access is allowed only to those authorised in their role and screened to the BS7858 standard. As such the SSEN smart meter performance manager or team manager are the only employees authorised to grant access to the NDAG application.

The SSEN performance or team manager will review requests for access to the NDAG application and will validate their roles require access, will validate BS7858 screening has been conducted and will regularly review user access accounts for leavers, movers, inactivity and business separation compliance via approved cost centres.

Scope

To allow controlled and compliant access to the NDAG application for SSEN employees, to request USB token access and locally installed software for ARO's and to regularly review user accounts.

- Ensure compliance with SEC obligations for controlled access and screening to BS7858
- Quarterly review of user access account for movers, leaver, business separation and inactivity
- Process for new user requests, authorisation and access to the NDAG application
- To allow ARO's access to Smart Metering systems

NDAG User Access Requests

[Redacted]

NDAG User Access Request Process Flow

[Redacted]

Quarterly Audit Review of User Accounts

Every quarter the SSEN lifecycle performance or team manager will conduct a review of all users that have access to the NDAG. A report of all AD users will be requested to the AD team showing all NDAG user names and activity. A report from HR of leavers and movers will be requested and correlated against active NDAG AD user accounts and a report from the Verification and Vetting team of SSEN BS7858 screened employees. SSEN cost centres of user will also be checked for business separation. The review will include;

- A check of user's activity, if no activity within the last 3 months' accounts are suspended
- Cost Centres will be checked to ensure only SSEN cost centres have access to comply with business separation rules, any not will be suspended.
- The list of user names will be correlated to the HR list of employee leavers and movers. Any accounts no longer requiring access will be suspended.
- A list of BS7858 screened employees for SSEN Smart Metering will be correlated against the AD NDAG user accounts to ensure the screening has been conducted for all active user accounts.
- Evidence of all checks will be recorded and maintained.

Appendix D DCC Adapter Aggregation Process

[Redacted]

Appendix E SSEN Data Protection Impact Assessment

SCOTTISH AND SOUTHERN ELECTRICITY NETWORKS

Smart Metering Data Protection Impact Assessment

1.	Introduction	30
2.	Document Purpose and Reviewers	30
3.	What is a Data Protection Impact Assessment?	31
4.	Identifying the need for a DPIA.....	31
5.	SSEN’s approach.....	32
6.	Legal Basis for processing	32
7.	Smart Metering Data Information flows.....	33
8.	What Smart Meter data is Personal Data?	34
9.	Why does SSEN need to access Electricity Consumption Data.....	34
10.	Example Use Cases of aggregated consumption data	35
11.	Aggregation, storage and deletion of consumption data	35
	Appendix 1– Legitimate Interest Assessment (LIA).....	52
	Appendix 2– Study of network data to determine level of granularity.....	54

1. Introduction

The Networks Smart Meter programme has a regulatory obligation to participate and make use of data that the new generation of Smart Meters across GB will provide to Network Operators and Scottish and Southern Electricity Networks.

Scottish and Southern Electricity Networks (SSEN) have procured a new application, called the Networks DCC Access Gateway (NDAG) owned by a company called DXC, formerly known as HPe. The NDAG application will communicate with the Data Communications Company (DCC) which is a government appointed company to manage the communications between meters and users such as SSEN. The NDAG will send and receive information to meters and store this data in its inventory. For longer term data storage SSEN will send data into its data storage and analytics repository, the current repository solution is OAC (Oracle Analytics Cloud), there is a separate Privacy Impact Assessment for this service.

When the majority of electricity meters in Great Britain are the next generation of smart meters SSEN will be receiving, and requesting data from around 3million smart meters on a regular basis and storing data for both its licence areas.

This data will be used across many areas of SSEN, from front line Customer Service Centres using real-time outage and restoration alerts and voltage information, to Operations and Planning teams using the data to manage and invest in the network efficiently. Network Planning teams will be using customer's consumptions data and maximum demand data to make informed investment decisions.

2. Document Purpose and Reviewers

This document is the Data Protection Impact Assessment (DPIA) for the use of smart meter data by SSEN. In accordance with ICO guidelines its purpose is to:

- Identify at an early stage, privacy risks and concerns associated with SSEN's use of smart metering data.
- Identify and engage with relevant stakeholders

Reviewer/s

Review Completed by:	[Redacted]
Role:	Networks Smart Meter Programme & Performance Manager
Date Review Completed:	26/06/2018
Data Protection Specialist:	[Redacted]

Data Controller (Personal Data Owner)

Directorate:	Networks
---------------------	----------

Relevant SSE ICO registered Data Controller:	Data Controller	Company No.	ICO Reg No.
	Scottish Hydro Electric Power Distribution plc	SC213460	Z5832061
	Southern Electric Power Distribution plc	4094290	Z5831998

Business Process Owners

Business Area	Benefits Data Category	Business Representative	
		North	South
Connections	Max Demand and Half-hourly Consumption	Head of Connections North	Head of Connections South
Network & System Planning	Max Demand and Half-hourly Consumption	Head of Planning and Investment North	Head of Planning and Investment South
Customer Services	Outage and supply status check	Business Implementation Manager	Business Implementation Manager
Operations	Voltage logs	Supply Restoration Managers	Supply Restoration Managers

3. What is a Data Protection Impact Assessment?

A Data Protection Impact Assessment (DPIA) is a process which helps organisations to anticipate and address the likely privacy impacts of projects.

A DPIA helps assess the privacy risks to individuals in the collection, use and any disclosure of information. It helps to identify risks, foresee problems, develop solutions, and ensure that concerns are addressed appropriately.

4. Identifying the need for a DPIA

SSEN considers it important to conduct a DPIA because of the sensitivities around privacy and smart metering data.

DPIAs are designed to:

- identify privacy risks to individuals;
- identify privacy and Data Protection Act (DPA) compliance requirements for data users;
- protect the reputation of and instil public trust and confidence in the SSEN's undertaking the DPIA;
- avoid expensive, inadequate "bolt-on" solutions for data privacy at a later stage; and

In addition to the practical benefits of a DPIA, undertaking one demonstrates to stakeholders that the SSEN are taking the issue of privacy seriously, are being proactive and are following best practice in addressing the issue.

5. SSEN's Approach

Through the ENA all DNOs collaborated and commissioned "Engage Consulting" to conduct a PIA on behalf of all DNO's that can be used or as a template and findings inform individual DNO's own DPIA.

SSEN's first activity was to determine best practice from the Information Commissioner's Office (ICO). We have followed the ICO's general guidance in undertaking this process. Engage Consulting sought the ICO's specific advice on how it can best be applied in relation to the access to, and use of, smart metering data by DNOs.

SSEN have carried out the following steps to produce this DPIA:

- considered the benefits that SSEN could deliver using data from smart meters that are consistent with its license obligations to provide and operate an efficient, co-ordinated and economical system for the distribution of electricity;
- identified what data would be required to deliver these benefits and how it would use this data.
- identified stakeholders and constructed an engagement plan with them;
- consolidated and analysed information obtained through this process;
- distilled the privacy risks and issues; and
- identified how these risks and issues could be managed by SSEN to mitigate these concerns.

6. Legal Basis for processing

<p>LEGITIMATE INTERESTS*</p> <p><i>Refer to Appendix 4 of PR-COR-DP-003 and complete the Legitimate Interest Assessment (LIA) if this is the intended basis you want to rely on.</i></p>	<p>We are relying on Legitimate Interests as our basis for processing and have carried out a Legitimate Interests Assessment See Appendix 1</p> <p>The processing will be carried out to achieve the legitimate interest of efficiently monitoring and reviewing the effectiveness of the Network and load appropriately and meeting regulatory obligations. The data will be used to understand at a more granular level the demand of our network and to manage the network more efficiently.</p>
---	---

7. Smart Metering Data Information flows

In order for GB plc to benefit fully from smart metering, the data that DNOs will need has been defined. The data all falls into the following categories.

Data Category	Explanation	Examples
HH Active Energy	<p>This is the amount electricity that has been consumed over a Half Hour (HH) period.</p> <p>In the case of electricity this is the 'real power' component of energy (measured in kilowatt hours' kWh) which is most commonly referred to as 'units' of electricity and which forms the basis of bills paid by all domestic customers.</p> <p>Active energy is generally imported but where generation is installed, active energy might also be exported.</p>	<ul style="list-style-type: none"> • Active Energy for each half hour of the day • kVA Maximum¹
HH Reactive Energy	<p>This is the 'imaginary' power component of electrical energy (measured in kilovolt amperes reactive hours - KVArh) which arises due to the electrical characteristics of some electrical appliances (or generation) and which gives rise to a component of the imported (or exported) electrical current which is not converted to real power.</p> <p>It is the difference between the total (or apparent) energy imported or exported (measured in kilovolt ampere hours - KVAh) and the active energy or consumption (described above).</p> <p>While, in the case of domestic customers, this component of the apparent energy consumed (or generated) is not currently billed, it does nevertheless give rise to higher currents flowing through distribution networks which in turn leads to higher electrical losses and/or a need for higher capacity components.</p>	<ul style="list-style-type: none"> • Reactive Energy for each half hour of the day • Power Factor²
System Quality	<p>This is the data that indicates the quality of the energy supply provided. For electricity, this includes:</p> <ul style="list-style-type: none"> • the half-hourly average of the RMS value of the voltage at the point of supply (i.e. the value that is referred to in measurements of AC voltage – for example the '230 Volt' supply provided to the great majority of domestic consumers); • voltage sags and swells; and high or low voltage alarms. 	<ul style="list-style-type: none"> • Voltage Level for each half hour of the day • Average, Maximum, Minimum RMS Voltage • Number of Power Swells/Dips
Meter Events	<p>These are ad-hoc incidents where something unexpected has happened to the meter or energy supply, for example a loss of supply and sometimes relating to safety risks. Power outage and restoration alerts.</p>	<ul style="list-style-type: none"> • Physical Tamper Attempts • Excessive Magnetic Fields • Extreme Under/Over Voltage • Positive Valve Closure/Opening • Interferences/Errors • Loss of Supply data
Meter Configuration	<p>This is data that shows how the meter is set up to measure the energy and how it should respond to particular events.</p>	<ul style="list-style-type: none"> • Metering System Status • Status of Supply Switch

8. What Smart Meter data is Personal Data?

A number of European smart meter deployment programmes have been successfully challenged under human rights legislation surrounding the right to privacy because consumption data has the potential to be used to determine behaviour.

The British Government accepted the European Regulators' Group for Electricity and Gas (ERGEG) principle that "it is always the consumer that chooses in which way consumption data shall be used and by whom, with the exception of metering data required to fulfil Regulated Duties and within the national market model".

Standard Licence Condition 10A (SLC10A) of the Electricity Distribution Licence applies to DNOs accessing Electricity Consumption Data which relates to a period of less than one month.

Based on the definition of Electricity Consumption Data, this is deemed to apply to:

- Active electricity import (i.e. Wh) – stored on SMETS compliant smart meters for 13 months; and
- Reactive electricity import (i.e. VARh) – stored on SMETS compliant smart meters for three months.
- Ad hoc or scheduled DCC Service Requests such as 'Read Daily Consumption Log' and 'Read Instantaneous Import Registers'.

It is these data items, which have the potential to generate consumption data for less than one month, which are considered to be Personal Data and are covered by the Government's data privacy plan requirements and this, SSEN's Data Protection Impact Assessment.

9. Why does SSEN need to access Electricity Consumption Data

SSEN needs to access and manipulate smart meter data to meet their Regulated Duties. The nature of distribution networks is that SSEN needs to change the capacity and topology of its networks over time and hence we need to understand the performance of our network over extended time periods to assess the likely impact of these changes.

We also need to understand the loadings on our network to a sufficient level of granularity to be able to deliver benefits to customers. To that end we need the ability to aggregate half-hourly consumption data at a sufficiently low level that maintains an appropriate degree of network visibility in order that the data is still of use to SSEN. This will ensure that aggregated consumption data still enables us to assess the performance of our networks as the capacity and topology changes. Having a sufficiently low level of aggregation will help SSEN manage the following scenarios:

- As our network evolves to meet the needs of our customers, premises may be connected to different sections of the network, which may change the way in which Electricity Consumption Data from individual meters needs to be aggregated;
- We may need to aggregate Electricity Consumption Data over a certain period in order to assist in the diagnosis of a network issue and later to aggregate with other Electricity Consumption Data over an overlapping period due to changes in our network topology. We would therefore find it much more useful if aggregation levels were low enough to enable the continued use of historical aggregated data even when the network topology changes;

- We may need to aggregate Electricity Consumption Data together differently in order to model and understand how different operational scenarios could affect the design and operation of our networks. Having a lower level of aggregation would provide a DNO with a much higher degree of flexibility in undertaking future studies using historical data.
- We may not have an exact record relating every meter and service to the network that supplies it, and as the accuracy of these records improves, enabled by smart meter information, the aggregation of Electricity Consumption Data from groups of meters, or service cables, may need to be revised;

In summary, the best way for SSEN to maintain an accurate model of our networks to deliver improved efficiencies and a better service to consumers is to be able to use stored aggregated Electricity Consumption Data that has been aggregated at a sufficiently low level to enable it to continue to accurately represent the load on network assets at a point in time, historic, current or future.

This will enable us to utilise aggregated half-hourly consumption data over periods that are much longer than the period data is stored on the meters and maximise the opportunities for us to deliver benefits to customers.

10. Example Use Cases of aggregated consumption data

This section illustrates identified scenarios where SSEN would use aggregated half-hourly consumption data to deliver customer benefits.

New customer connection

Using aggregated demand profiles of all the existing customers connected to the LV circuit to assess whether additional load (e.g. new customer connections or a new low carbon technology to an existing customer connection) can be accommodated on the existing LV circuit without exceeding its thermal capacity or voltage limits, or whether either demand-side management or reinforcement is necessary.

Integrity of existing network

Using aggregated demand profiles to compare demand profiles on LV and HV circuits against circuit ratings, taking account of load and generation, to identify circuits which are approaching their thermal capacity or voltage limits and whether either demand-side management or reinforcement is necessary. As network topology changes over time these calculations will be carried out using a different set of aggregated data.

11. Aggregation, storage and deletion of consumption data

Aggregation can be achieved by aggregating consumption data either across multiple periods of time or the addition of data pertaining to multiple domestic properties. Aggregation reduced the privacy impact by helping to conceal the pattern of electricity usage inherent in one property's detailed Electricity Consumption Data either by losing the detail within a sum totalled over a period of a time, or by masking the detail amongst other properties.

Electricity Consumption Data arrives into SSEN's system in an encrypted secure format. The encrypted data received by SSEN will be decrypted and aggregated within our IT system (Networks DCC Access Gateway application) as soon as practicable on receipt by SSEN i.e. before the data is stored or accessible to a user. The decrypted disaggregated data will then be deleted immediately, this is depicted in Diagram 1. below

Our system is controlled by user access and role based access controls. Only authorised users are allowed access to the system and ability to request consumption data. The system has automatic aggregation logic that prevents a user requesting consumption data to a more granular level than what has been set by the system administrators to avoid unintentional individual consumers consumption data being requested.

In SSEN's case, through studies of the level of granularity we need to obtain to maximise the benefits to our network, whilst ensuring sufficient aggregation of consumption data, SSEN have decided to aggregate half-hourly consumption data to five or more premises for each half-hourly period, this is achieved through the premises, meter point administration number (MPAN).

Any request of consumption data for less than five MPANs will be rejected and audited. SSEN believe this is the optimum level of aggregation that suitably reduce the privacy impact whilst providing useful information to help our network planners make better informed decisions and meet Ofgem benefit realisation reporting obligations.

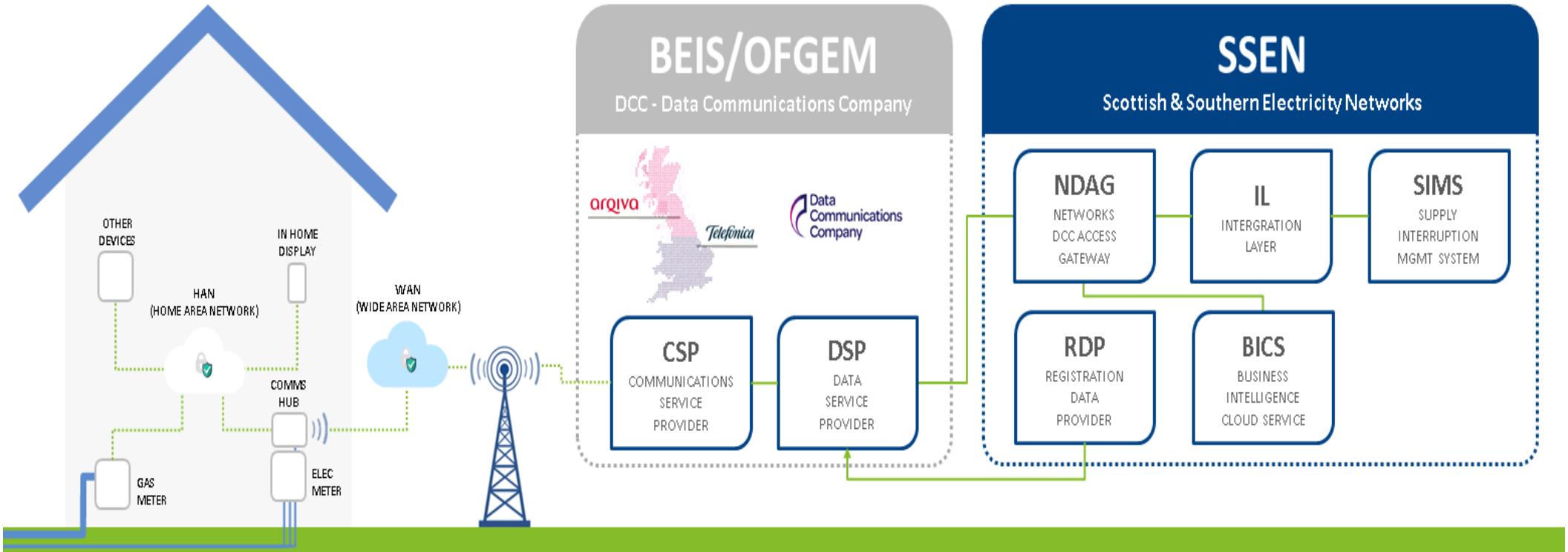
Aggregated Electricity Consumption Data that is held within our secure storage will only be referenced by our unique Network Reference Number (NRN) identifier and not by individual premise details.

Diagram 1. Consumption Data Service Request Response (SRR)

[Redacted]

The below image 2 depicts SSEN's smart meter infrastructure and the systems that SSEN have developed and will use to manage smart meter data.

Image 2. SSEN Smart Meter Systems



12. Table of data categories and benefit use (including the legitimate interests pursued).

This table sets out the various categories of data that will be collected, and the legitimate interest(s) that will apply to each processing activity.

Data Category	Data	Benefit / Legitimate Interest	How	Reasoning
HH Active Energy	<ul style="list-style-type: none"> Active Energy for Each Half Hour of the day (Electricity). kW Minimum and Maximum Demand. 	Network Cost Reduction	Network Planning	Smart meter data can inform medium & longer term network planning and design, enabling more cost-effective electricity network investments to be made.
			Demand Management	Network use of system charging arrangements that smart meters' support, and new products and services that smart meters enable, can incentivise electricity consumers to minimise their energy use at times of peak electricity demand, reducing costs associated with building higher capacity electricity networks.
			Better Resource Management	Data from smart meters can better identify windows of opportunity for network maintenance - providing more flexibility with resource allocation and lower maintenance costs.
		Low Carbon Energy Infrastructure	Changing Demands	Data from smart meters can better identify windows of opportunity for network maintenance - providing more flexibility with resource allocation and lower maintenance costs.

Data Category	Data	Benefit Legitimate Interest /	How	Reasoning
HH Active Energy	<ul style="list-style-type: none"> Active Energy for Each Half Hour of the day (Electricity kW Minimum and Maximum Demand) 	Low Carbon Energy Infrastructure	Demand Management	Data from smart meters can enable secure and reliable electricity supplies to be maintained with the new demands of electric vehicles, electrification of space and water heating, wider use of distributed and micro - generation, and changing consumer energy usage behaviours generally - by facilitating proactive monitoring of real and reactive power flows and voltages on networks, and the derivation of new demand profiles so that the effects of the new demand, reducing costs associated with building higher capacity electricity networks.
		Customer Service Improvements	Fault Avoidance	Data from smart metres can identify emerging electricity network issues so that they can be addressed before a failure occurs, hence reducing unplanned outages.
		Technical and Non-Technical Losses Reduction	Network Reconciliation	Smart meter data can identify situations where measurements taken higher up the network do not reconcile with energy being recorded on meters, enabling losses and/or instances of potential electricity theft to be identified, appropriate rectification actions to be taken and potentially for theft levels to be reduced

Data Category	Data	Benefit Legitimate Interest /	How	Reasoning
HH Reactive Energy	<ul style="list-style-type: none"> Reactive Energy Power Factor 	Low Carbon Energy Infrastructure	Renewable Generation	Data from smart meters can enable quality electricity supplies to be maintained with significantly more distributed renewable generation in the networks – by facilitating proactive monitoring of real and reactive power flows and voltages on networks
			Changing Demands	Data from smart meters can enable quality electricity supplies to be maintained with the new demands of electric vehicles, electrification of space and water heating, wider use of distributed and micro-generation, and changing consumer energy usage behaviours generally– by facilitating proactive monitoring of real and reactive power flows and voltages on networks, and the development of new demand profiles so that the effects of the new demand can be predicted
		Customer Service Improvements	Power Factor Management	Data from smart meters can identify instances of poor power factor leading to increased losses and poorer voltage regulation enabling NOs to take remedial actions to improve voltage quality and increased access to network capacity

Data Category	Data	Benefit Legitimate Interest /	How	Reasoning
System Quality	<ul style="list-style-type: none"> • Voltage Level • Average, Maximum, Minimum RMS Voltage • Number of Power Swells / Dips • Loss of Supply 	Network Cost Reduction	Fault Avoidance	Data from smart meters can identify emerging electricity network issues, such as thermal overloads or excessive voltage excursions associated with higher and/or two-way network power flows, so that they can be addressed before a failure occurs, reducing both maintenance costs and costs associated with unplanned remedial works
		Low Carbon Energy Infrastructure	Changing Demands	Data from smart meters can enable quality electricity supplies to be maintained with the new demands of electric vehicles, electrification of space and water heating, wider use of distributed and micro-generation, and changing consumer energy usage behaviours generally – by facilitating proactive monitoring of real and reactive power flows and voltages on networks, and the development of new demand profiles so that the effects of the new demand can be predicted;
		Customer Service Improvements	Fault Avoidance	Data from smart meters can identify emerging electricity network issues so that they can be addressed before a failure occurs reducing unplanned outages
			Faster Fault Rectification	Data from smart meters can enable the location of electricity faults to be identified more rapidly, reducing both rectification time and costs

Data Category	Data	Benefit Legitimate Interest /	How	Reasoning
Meter Events	Examples include: <ul style="list-style-type: none"> • Physical Tamper Attempts • Excessive Magnetic Fields • Extreme Under/Over Voltage • Status of Supply Switch 	Network Cost Reduction	Fault Avoidance	Data from smart meters can identify emerging electricity network issues, such as thermal overloads or excessive voltage excursions associated with new network demands, so that they can be addressed before a failure occurs, reducing both maintenance costs and costs associated with unplanned remedial works
		Customer Service Improvements	Faster Fault Rectification	Data from smart meters can enable the location of electricity faults to be identified more rapidly, reducing both rectification time and costs
			Fault Avoidance and Protection against excessive voltage	Data from smart meters can identify certain types of network malfunctions which if otherwise undetected can lead to excessive voltages and damage to customer's appliances
		Theft Reduction	Tamper Alerts	Alerts from smart meters can identify potential tampering, enabling instances of potential electricity theft to be identified and theft levels to be reduced. This information is shared internally with our Revenue Protection Departments and used with other data sets to improve the quality of information available.
Data Category	Data	Benefit Legitimate Interest /	How	Reasoning

Meter Configuration	Meter System Status	Network Cost Reduction	Network Planning	Smart meter data can inform medium & longer term network planning and design, enabling more cost-effective electricity network investments to be made
		Customer Service Improvements	Fault Avoidance	Data from smart meters can identify emerging electricity network issues so that they can be addressed before a failure occurs reducing unplanned outages

13. Summary of Privacy Risks Identified and Solutions

Using the information from previous sections, and the prompts provided under each principle, summarise the privacy risks identified and controls in place.

Principles and Factors to consider to identify potential Privacy risks	Any Risks Identified Low Medium High	Categories of individuals affected	Proposed Solution	Risk eliminated, reduced or accepted?	Is the solution a justified, compliant and proportionate response to the Proposal aims?	Person responsible for embedding solution and data by which solution must be in place.
<p>i. Transparency: Is the Proposal within the reasonable expectations of Data Subjects and does the Privacy Notice cover this type of activity?</p> <p>If not- has the DPS been advised to update the notice and/or consider whether a separate notice is necessary?</p>	<p>Low</p> <p>Stakeholder engagement events to be undertaken.</p> <p>Privacy notice to be updated to include a smart meter section.</p>	Customers	<p>External stakeholder engagement sessions will be conducted to understand consumers views on SSEN accessing consumption data.</p> <p>Privacy Notice will need to be updated to cover new processing</p>	Reduced	Yes	[Redacted]
<p>ii. Lawfulness: Have you identified and documented a legal basis for processing the data?</p>	No risk..	Customers	Legitimate interest criteria completed below	Eliminated	Yes	[Redacted]

If you are processing Special Categories of Data, do you have consent?						
Purpose: Do you have a clear purpose for processing the data?	No risk. To achieve the legitimate interest of efficiently monitoring and reviewing the effectiveness of the Network and load appropriately. To meet regulatory obligations. The data will be used to understand at a more granular level the demand of our network and to manage the network more efficiently.	Customers	Detail business analysis has been undertaken and clear purpose established. Internal engagement with business teams and development of detailed benefits realisation plans that explain the reasons for collecting and using consumption data in-line with the BEIS Cost Benefit Analysis of benefits achievable by Network Operators.	Eliminated	Yes	[Redacted]
iii. Data Minimisation: Do we already have the Personal Data and can it be used in its current form?	Low No consumption data previously held. Consumption data will only start to be collected once SSEN submit our Data	Customers	Consumption data will be aggregated to five households. Research has been undertaken and this number was determined to minimise the privacy impact on individuals whilst allowing for necessary	Reduced	Yes	[Redacted]

<p>Do we need to collect further information?</p> <p>Is all of the Personal Data relevant to the purpose for which it is processed? For example, are we holding and/ or collection data we do not need?</p>	<p>Privacy Plan to OFGEM and gain approval to access this information. Personal data is stored on the properties electricity meter and accessed through SSEN's secure DCC adapter application and via the Data Communications Company (DCC). This data will only be half-hourly consumption data.</p>		<p>network visibility to achieve the legitimate interest.</p> <p>The half-hourly consumption data will only be used for the purposes of network planning, network operation and management and hence to deliver improved customer service;</p> <ul style="list-style-type: none"> • The half-hourly consumption data will not be disclosed to any unauthorised third parties. 			
<p>iv. Accuracy:</p> <p>Is the Personal Data we hold accurate?</p> <p>Will we update the Personal Data?</p>	<p>Low</p> <p>Personal consumption data is created and recorded on the electricity meter</p>	<p>Customers</p>	<p>SSEN will retrieve and store the data at regularly intervals that will provide recent and historical records of consumption data that allows us to determine the network performance. This data is never</p>	<p>Eliminated</p>	<p>Yes</p>	<p>[Redacted]</p>

<p>Can we update the Personal Data?</p> <p>Do we need to retain Personal Data which is no longer accurate or up to date (for example for record keeping or analysis)?</p>	<p>itself and owned by the Supplier. SSEN do not update this data, we only obtain and aggregate. The data is stored and used for near real time and historical analytics. The data is a record of a point in time and therefore it is never out of date, simple a record of historical consumption data.</p>		<p>amended from its original state and is kept for historical analysis and trends.</p>			
<p>v. Storage limitation: Have you documented your retention periods?</p> <p>What controls are in place to ensure retention periods are complied with?</p> <p>Is the Personal Data securely disposed of?</p>	<p>Low Risk that SSEN's system for aggregation fails and does not fully aggregate half-hourly consumption data as per its design.</p>	<p>Customers</p>	<p>Our systems have been configured to retain data for 7 years. Consumption data is immediately aggregated at our DCC adapter and immediately deleted. The aggregation process has been fully tested internally and by 3rd party vendors, it is only accessible by a limited number of authorised employees and those employees have been security screened to BS7858 standard. All requests for consumption data is audited and checked for accuracy and compliance.</p>	<p>Eliminated</p>	<p>Yes</p>	<p>[Redacted]</p>

<p>vi. Data Security: Do you have appropriate security measures to protect the Personal Data? <i>Please note security measures include not just electronic measures (such as encryption) but physical measures (such as restricted access to buildings).</i> If necessary, has information security approval been obtained?</p>	<p>No risk Our systems are designed and externally audited by the ICO against the Security obligations set out in the Smart Energy Codes to ensure the data is secure. SSEN only allow access to applications to certain authorised personnel and conduct vetting to those employees to BS7858 standard. Building access is restricted by PAC token on entry and internal doors.</p>	<p>Customers</p>	<ul style="list-style-type: none"> • the half-hourly consumption data will be captured and aggregated to an agreed level, before use by SSEN to carry out their statutory and regulated duties; and • Internal security procedures in place to secure the data. • SSEN have implemented an Information Security Management System (ISMS) in line with ISO 27001 which has been subject to external CIO audits and will continue to be. 	<p>Reduced</p>	<p>Yes</p>	<p>[Redacted]</p>
<p>vii. International transfers: Is Personal Data to be processed outside of the EEA? If so, have information security been consulted?</p>	<p>No risk Data is stored on site and on our cloud service which is hosted in an EU country.</p>	<p>Customers</p>	<p>N/A.</p>	<p>Eliminated</p>	<p>Yes</p>	<p>[Redacted]</p>

<p>viii. Data Sharing: Is the data being shared with any third party?</p> <p>If so, what controls are in place?</p>	<p>Low</p> <p>SSEN will not share unaggregated individual consumption data. Controls are in place to aggregate which is then shared with 3rd parties to comply with our Regulatory duties.</p>	Customers	<p>SSEN will not share individual unaggregated consumption data. The aggregated consumption data for a low voltage feeder and/ or distribution transformer will be available for 3rd parties to comply with our Regulatory duties, competition in connections or 3rd parties to maintain an efficient network of electricity through external studies, projects or innovations. Information will not be used for commercial gain, selling or marketing purposes.</p>	Reduced	Yes	[Redacted]
<p>ix. Individuals rights: Data subjects have a right to Access, Erasure, Portability and the right to object to processing (in certain circumstances).</p> <p>Will the project have any impact on compliance with these rights?</p>	<p>Low</p> <p>Data will be identifiable via the Mpan; therefore, the data can be erased or processing ceased if required. There may be occasions when individual consumer data is obtained and aggregated with</p>	Customers	<p>SSEN will establish internal processes for responding to and actioning data subject rights requests.</p> <p>In particular, if an individual exercises their right to object under Article 21 of the GDPR, SSEN will undertake an assessment of whether SSEN can demonstrate compelling legitimate grounds for processing which override the interests, rights and freedoms</p>	Accepted	Yes	[Redacted]

	<p>other data that may not be possible to extract and delete without deleting other data sets.</p>		<p>of the individual. If this is the case, then the processing can lawfully continue. However, if SSEN's legitimate grounds do not override the rights of the individual, then SSEN will remove the individual's MPAN from all processes that collect their consumption data to the extent possible, and to the extent that the individual can be identified.</p> <p>If an individual exercises their right to restriction of processing under Article 18 of the GDPR, the processing of that individual's personal data will be restricted pending the verification whether the legitimate grounds of SSEN override the rights of the individual.</p> <p>However, SSEN may not be in a position to identify the individual where at an aggregated level, it would not be possible to delete the data without reducing the level of aggregation. This would increase the impact of privacy</p>			
--	--	--	---	--	--	--

			<p>having a negative impact on individuals.</p> <p>If SSEN can demonstrate that it is not in a position to identify the individual due to the data already having been aggregated, then Articles 15 to 20 of the GDPR (right of access, right to rectification, right to erasure, right to restriction of processing, and right to portability) will not apply except where the individual, for the purpose of exercising his or her rights under those articles, provides additional information enabling his or her identification (Article 11(2) GDPR).</p> <p>A detailed privacy notice will be provided to ensure full transparency and SSEN will comply fully with any SAR or request further information.</p>			
--	--	--	---	--	--	--

DPIA Appendix 1– Legitimate Interest Assessment (LIA)

First, identify the legitimate interest(s). Consider:

- Why do you want to process the data – what are you trying to achieve?
 - In summary- Efficiently monitor and review the effectiveness of the Network and load appropriately. (the legitimate interest) This will also allow for regulatory compliance. See section 9 for further detail.
- Who benefits from the processing? In what way?
 - SSEN- So that we can effectively manage our Network. The improved visibility of granular network data to inform our decisions to spend money and reinforce our network.
 - Customers - Will ultimately benefit from the decisions made as a result of the above bullet point.
- Are there any wider public benefits to the processing?
 - Improved visibility of peak demand patterns allows our network to be operated closer to its limits, reducing investments needs.
 - Ability to enable future low carbon technologies to be connected to our network more flexibly.
- How important are those benefits?
 - They are important as they directly relate to costs on customer bills and are an OFGEM regulatory reporting requirement to maximise the benefits smart meter data can provide Network Operators.
- What would the impact be if you couldn't go ahead?
 - The cost benefits analysis that the UK government predict for Network Operators will be greatly reduced, cost reductions and efficiencies will not be achieved. This will ultimately impact customers.
 - SSEN wouldn't be able to meet their Regulator (Ofgem) obligation.
- Would your use of the data be unethical or unlawful in any way?
 - No, use of this data will only be available to SSEN once Ofgem have formally approved our Data Privacy Plan, which will involve stakeholder engagements, legal review and appropriate protection of the data.

Second, apply the necessity test. Consider:

- Does this processing actually help to further that interest?
 - Yes. We need the ability to aggregate half-hourly consumption data at a sufficiently low level that maintains an appropriate degree of network visibility in order that the data is still of use to SSEN.
- Is it a reasonable way to go about it?
 - Yes. We believe this is the best way to go about processing this data through stakeholder engagements, CIO, BEIS and Ofgem collaboration.
- Is there another less intrusive way to achieve the same result?
 - We don't believe there are any other solutions that are as costs effective and in the best interests of our customers and our business. The data has been aggregated to a sufficient level to reduce

privacy impact, whilst still offering a necessary degree of network visibility in order that the data is still of use to SSEN, for achieving our legitimate Interest (effective network planning).

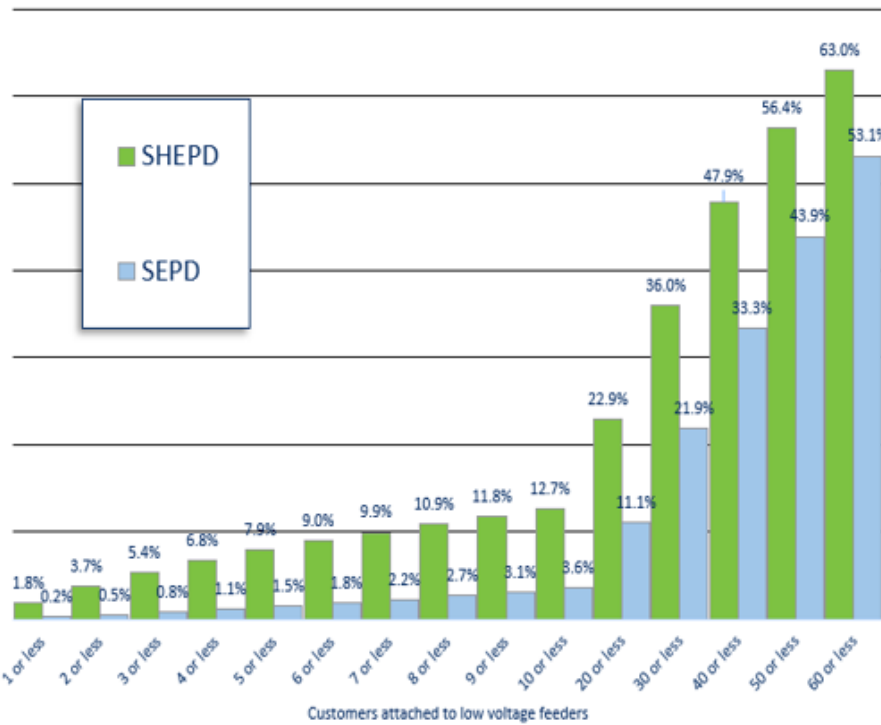
Third, do a balancing test. Consider the impact of your processing and whether this overrides the interest you have identified. You might find it helpful to think about the following:

- What is the nature of your relationship with the individual?
 - Customers within our network distribution area.
- Is any of the data particularly sensitive or private?
 - Consumption data is personal data. SSEN will be collecting and aggregating consumption data into LV feeder and/ or distribution transformer profiles.
- Would people expect you to use their data in this way?
 - Consumers are not generally aware of Network Operators, therefore SSEN are engaging stakeholder through various stakeholder engagement session to obtain views and expectations. Use of smart meter data will also be covered in our Privacy Notice available on the website.
- Are you happy to explain it to them?
 - Yes, we are appointing Ipsos Mori consumer research agency to conduct the events, and SSEN are happy if needed to explain it to them.
- Are some people likely to object or find it intrusive?
 - Potentially. This is why we are undertaking stakeholder engagement events. We have also undertaken research to determine a suitable level of aggregation to minimise any privacy concerns.
- What is the possible impact on the individual?
 - Access to aggregated consumption data.
- How big an impact might it have on them?
 - Minimised.
- Are you processing children's data?
 - No- no children's data will be directly identifiable.
- Are any of the individuals vulnerable in any other way?
 - Would not be identifiable through the use of this data.
- Can you adopt any safeguards to minimise the impact?
 - Data has been aggregated.
- Can you offer an opt-out?
 - No, consumers cannot specifically request to opt-out. Ofgem would either approve or reject SSEN's request to access personal data such as consumption data.
 - However, consumers can object to having a smart meter.

DPIA Appendix 2– Study of network data to determine level of granularity

To determine the level of network visibility we require to maximise the benefits, whilst ensuring the granularity does not identify an individual consumer we mapped our network connectivity data to every distribution transformer, LV feeder and associated customers.

This allowed us to identify the most suitable level, five mpans, which covers 98.5% of our network in SEPD and 92.1% in SHEPD.



Why five MPANs?

To realise benefits our Network Planning and New Connection Teams identified the level of MPAN granularity required.

Based upon network coverage of customers connected to our Low Voltage networks, differing from our licence areas in north of Scotland (SHEPD) and central southern England (SEPD), five MPANs aggregated is the optimal level agreed to realise benefits.

Five MPANs aggregated will provide;

- 98.5% coverage SEPD
- 92.1% coverage SHEPD

Appendix F Information Security Management System (ISMS)

[Redacted]

Appendix G SSEN Ipsos MORI Stakeholder Engagement (Qualitative)

Aims and objectives

Overall this study aimed to understand consumer attitudes to SSEN accessing half-hourly electricity consumption data contained in smart meters, at the level of 5 aggregated homes and within the scope of the data access and privacy framework. In particular this project has explored:

- Consumer attitudes to SSEN accessing half-hourly data under the SLC10A
- Consumer reactions, and any perceived risks or reassurance needed around the proposed safeguards, including for data security and anonymity

- How consumer reactions are affected by their level of awareness and understanding of the role and remit of SSEN and the user benefit-cases of access to this data
- Whether consumers' attitudes differ depending on the granularity of the data (testing the proposition of aggregation at the level of 5 homes)

To achieve these objectives, the research consisted of 6 extended focus groups across SSEN's two geographic regions (Central Southern England and Northern Scotland). The discussions were moderated by Ipsos MORI researchers.

This research follows a previous study commissioned in 2016 by the Energy Networks Association on behalf of all six Distribution Network Operators (DNOs) across Great Britain. Where findings from this current project for SSEN are similar to those of the previous study (which involved 12 focus groups across all DNO regions, including SSEN) this is stated.

Executive summary

Most participants engaged in this research responded positively to SSEN accessing half-hourly electricity consumption data for the purposes of making better planning and investment decisions.

Similarly, to the 2016 research for the ENA, most do not see electricity data as sensitive information and so have relatively few concerns about SSEN accessing it for the purposes stated to consumers during the research. Participants generally expressed trust in both SSEN, and the wider governance system, that would sit around this data access. While data loss or hacking incidents were raised by consumers as a potential reality, they were not unduly worried by this and it did not affect their overall response to the proposition.

Consumers engaged in SSEN regions were, in general, supportive of the proposition to aggregate at the level of five homes—considering this to provide suitable reassurance over anonymity but providing a step-change in the granularity of information available to SSEN. There were some consumers who would be comfortable with SSEN accessing their individual household data (which is not being proposed by SSEN but serves to indicate the level of comfort some consumers expressed spontaneously on this issue). There were, however, a few who remained unsure of the value to SSEN of access at this level (as opposed, for example, to the level of a substation). This was not active disagreement with this proposition however, but indicative of a desire to understand in more detail the value of this level of data access. It also sometimes related to a reluctance for smart meters to be the tool used to access this data, even where SSEN access to this information was considered beneficial for the network and consumers.

Where a few consumers were less supportive of SSEN accessing consumption data this related to their pre-existing attitudes to smart meters; negative perceptions of the roll-out were found to strongly affect attitudes even where the same consumers were positive about the use-cases for SSEN, and trusted SSEN as an organisation. Attitudes to smart meters were far more mixed among the participants engaged in this research than during the 2016 research for the ENA, and these attitudes had a greater bearing on the discussions in some groups than was previously found.

Key messages from SSEN's customers

SSEN customers consulted through this research commonly voiced the following opinions about SSEN's proposition to access half-hourly electricity consumption data. These are key messages from this research for SSEN to consider.

Matching those from the earlier study	Further key messages from SSEN customers
<p>Planning and efficiency benefits resonate with consumers Participants are supportive of consumption data being used to deliver a more reliable and flexible electricity network, which is built and maintained cost-effectively with less wastage through smart investment.</p>	<p>Aggregating data at the level of 5 homes is suitable to most... Most participants agreed this was acceptable as it was seen to strike the right balance of providing SSEN with the granularity needed for effective network management, whilst protecting the privacy of individual homes.</p>
<p>SSEN is trusted, particularly when its role & remit is understood Transparency around the context in which an organisation is seeking data access (its role and purpose) aids confidence. Participants are wary of companies overclaiming that data can be kept entirely safe and secure however, as risks of data loss and/or data hacking, are real (and increasing).</p>	<p>...Although for a few, levels of support are affected by attitudes to the smart meter rollout overall. While electricity data is not considered sensitive information by most, a few participants (despite supporting the overall principle of SSEN needing this data) questioned the necessity of the smart meter as the tool used by SSEN to access this information.</p>

Participant reactions to SSEN benefit cases

The reactions of participants to the potential benefits presented to them*, and the extent to which these underpinned overall levels of support for SSEN accessing consumption data, were similar among SSEN customers to the responses among participants in the earlier ENA study. Where queries were raised in relation to these benefits (even by just one or two participants), these are highlighted to help SSEN understand the types of response that can be received.



Better investment decisions –this benefit to SSEN from accessing usage data resonated strongly with nearly all participants and was the key reason that most supported the SSEN proposition. Indeed, many assumed that SSEN would already have access to this type of data in order to manage the current network. A few voiced a query, however, about whether the use of more granular data to make investment decisions, would result in differential consumer costs depending on the area of the network on which you lived (and the extent to which that was an area that required greater or lesser spending in future as a result of analysing that data)



More reliable future electricity system –this benefit resonated for most. A few voiced a concern that more granular information could be used, however, as a justification to reduce investment in certain areas of the network. Others believed the reliability of the network to be good now, and questioned the need for SSEN to have new data (in general this did not lead to strong resistance overall however).



More flexible future electricity system –this seemed plausible and was viewed as a positive, but was not a 'deciding factor' for most as it had less personally relevance at this time (i.e. due to not having an electric car etc.).



Financial savings for consumers –this benefit helped a few to feel positive about the proposition. Among these consumers, a few hoped publicity around such savings would help to hold suppliers to account, and give ammunition for challenging price rises. Although (similarly to the ENA study), there was some lack of trust that savings would ‘trickle-down’ to consumers. Some who were supportive of SSEN accessing usage data did not mind, however, whether there was a personal benefit or not (with a few expressing a view that savings should be reinvested into projects to further ‘green’ the electricity system).

Key factors underpinning participant support

Most participants (leaving aside the varying attitudes to smart metering), expressed their support for SSEN accessing electricity consumption data on the basis of the following four reasons. Indeed, overall a common assumption vocalised by participants was that SSEN must already have access to such data in order to manage the current network.

Part of industry modernisation

“I just find it mad that it hasn’t already been happening. I’m quite astounded that this hasn’t been happening, that they’re going on past data.”
- Oxford

Clear, practical applications

“If it’s anonymous, it’s going to help serve the customers needs and their business needs. It’ll help reduce wasted electricity. I’m not concerned in the slightest about it.”
- Inverness

Role and remit of DNOs

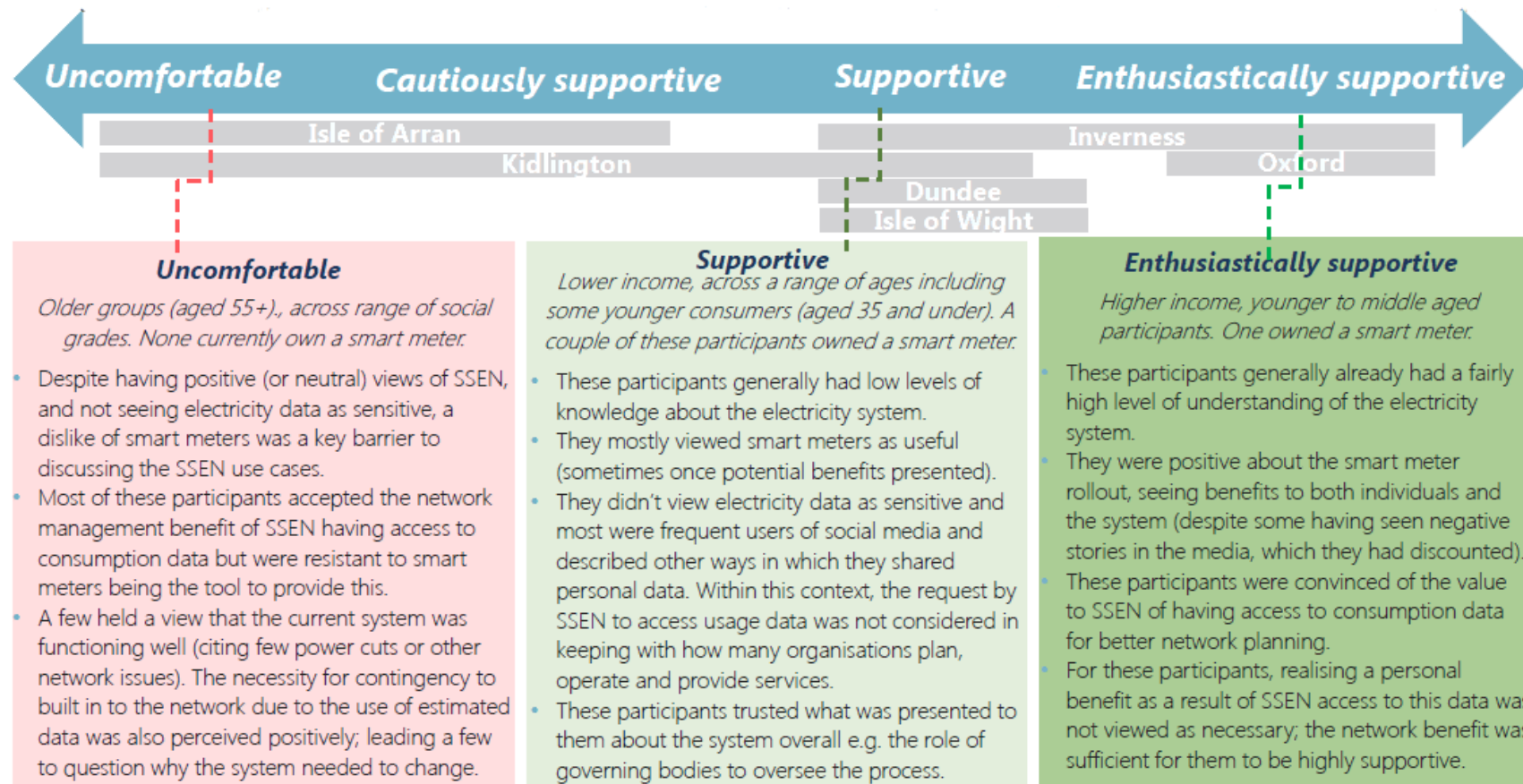
“It would be unfair for two of the guys [organisations in the electricity system] to get information and then one of them not. It’s like leaving someone out, everyone else gets to see the data so if one person sees it why is everyone else not seeing it?”
- Dundee

Electricity data not sensitive

“It goes back to what we were saying earlier – how sensitive or personal is the data that we’ve got on the smart meter? I can’t see that it is really... what I use, unless I was going to get censored for having so many game consoles if I’ve got kids or I’ve left the TV on sleep overnight and I should have switched it off.”
- Isle of Wight

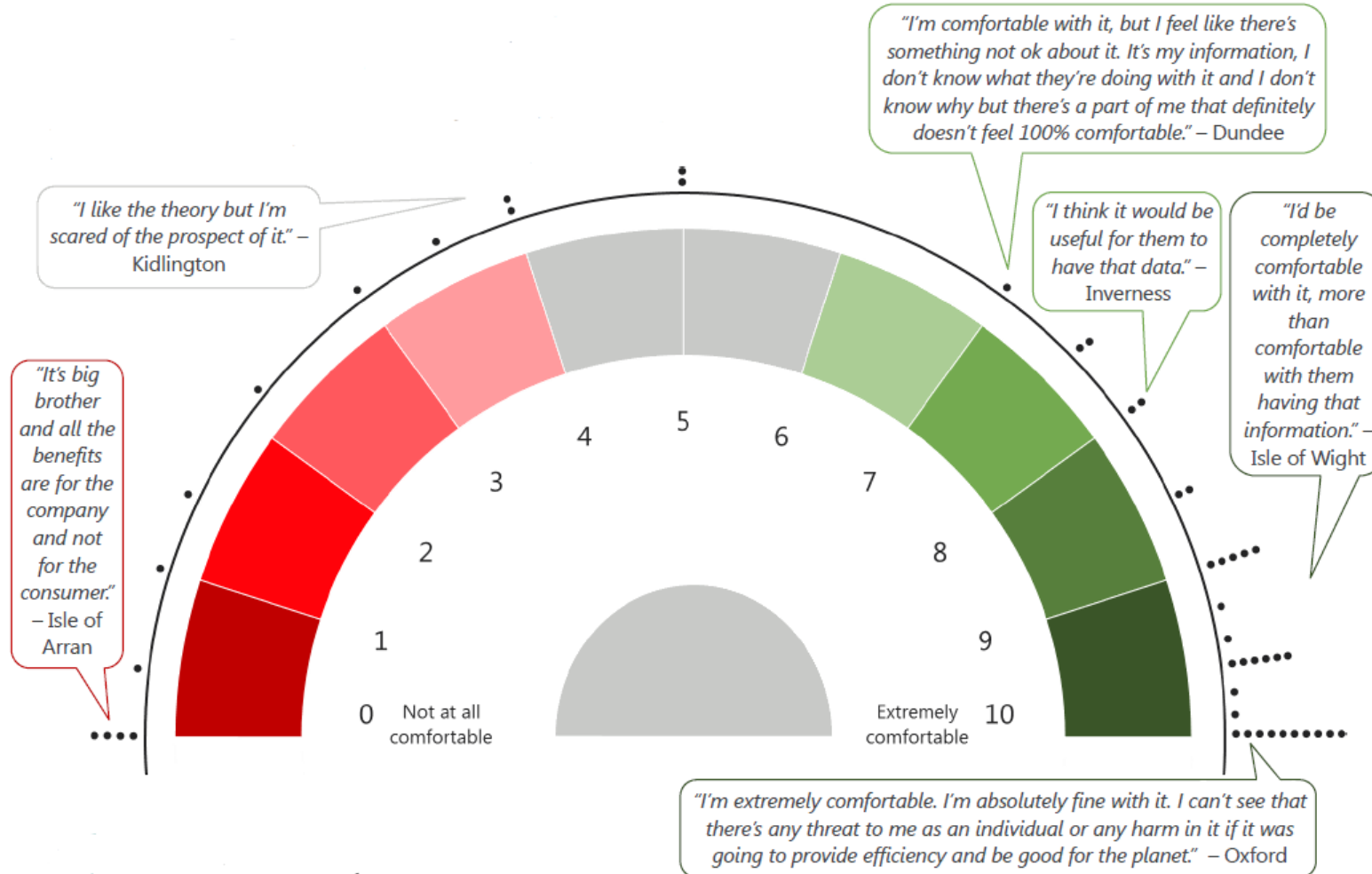
Summary of consumer views to SSEN access to usage data

Overall, most participants in this research were supportive of SSEN accessing half-hourly consumption data. The advantages this would give SSEN for network management resonated, and there were viewed to be very few risks to SSEN accessing this data (as the data itself was not considered sensitive, and SSEN were trusted to use it correctly). There were however, a few participants with less supportive views, which were linked to their views of smart meters.



Participant dial end-points

The dial below shows the end-point marked by all participants who completed the dial exercise. As this was a qualitative exercise this provides an indication, but not an objective measure, of the incidence of these differing views across the general population.



Participant attitudes to SSEN safeguarding data

Most participants trusted SSEN to have suitable data protection systems in place, although risk of misuse or hacking can never be totally averted

Most participants trusted SSEN to use the consumption data they accessed for valid reasons and also trusted them to have the appropriate procedures in place to keep the data as safe as possible. Most were not unduly worried, or made any comments about data security, use or mis-use that were specific to perceptions of SSEN.

This was also helped by the view held across nearly all participants that electricity data is not sensitive (unlike banking data, or health records). The participants also understood that SSEN would only have access to information about their meter point number and (aggregated) electricity data, and no other information on the household and its occupants.

Participants did consider whether electricity data could get into the hands of third parties. While there were mentions in all groups of the potential for data leaks or hacking (unrelated to SSEN), this was considered a 'fact of life' and, in the context of views on electricity data, did not unduly worry participants.

A few assumed that SSEN may share on such data (as they assumed many companies would do). This raised some concerns that consumers could get cold calls from those selling products. However, in spite of some of these concerns, this did not detract from the overall support for SSEN accessing data to support its network management and investment planning.

"I think that's the least concern of mine in terms of data security. I don't think that's where the issue lies [the DNO]. The issue lies with the supplier, the hacker, but I can't see this lot being interesting in anything other than the technical data."

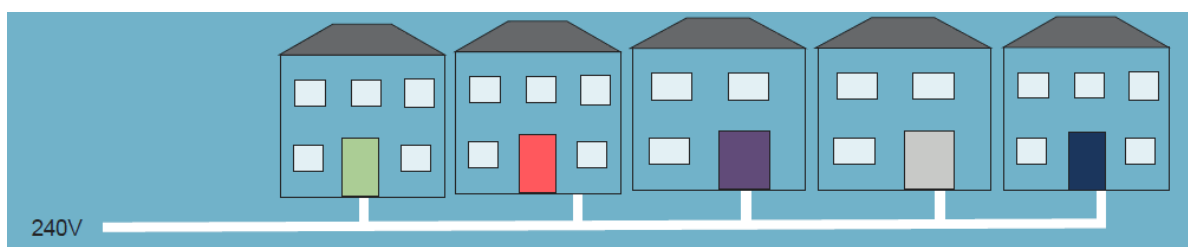
- Isle of Arran

Exploring attitudes to aggregation of usage data

During the focus group discussions, it was explained to participants that SSEN will aggregate property-level consumption data so that no individual property is identifiable.

The study explored participants' preferences around approaches to aggregation, including whether use of identifiable property data would be appropriate in any scenario and the trade-offs incurred through aggregation. These issues were explored to help ascertain participants' levels of comfort with SSEN using property level consumption data and understand the most appropriate ways in which the license conditions may be met.

During the discussions, the participants discussed SSEN's proposal of aggregating the data at the level of five homes.



Participant attitudes to SSEN aggregation approach

Most were comfortable with aggregation of 5 homes, a few had queries on the necessity of this granularity, with some spontaneously proposing access to single household data



Most happy with 5-homes proposition –overall participants tended to feel this offered the best balance between increasing the granularity of information available to SSEN for network management, and reducing any privacy risk at the level of individual homes. For those who held some concerns around sharing data (even if they were unsure of the origin of this concern and who did not consider electricity use data to be sensitive), this level of aggregation made them feel more comfortable about the overall proposition.



Some wouldn't mind if it was to level of 1 home –this view was expressed spontaneously by a few participants, building further on a view that electricity data is not sensitive among those with a strong belief that as granular data as possible would be helpful for SSEN.



There were, however, a few participants who queried the proposed level of aggregation and suggested that they would prefer aggregation across a larger number of homes (for example, at the level of a substation). This was not due to any strong concerns about SSEN's intended use of the data, or safeguard measures in place, but rather to prevent any risk of infringing customer privacy at all. Expressing this preference did not necessarily mean that these participants were against SSEN access to data at the level of 5-homes if this was the course ultimately taken. This was also not a preference expressed spontaneously, but rather a view offered once the issue of aggregation was raised and probed for discussion.

Appendix H Draft Privacy Notice

Scottish and Southern Electricity Network full Privacy Notice can be found at www.ssen.co.uk, below is an extract;

Scottish and Southern Electricity Networks Privacy Notice

About us

What information do we need?

Why do we need it?

Legal bases for processing

What do we do with it?

How long will we keep it?

International data transfers

Your Rights

Contacting us

About us

We are Scottish and Southern Electricity Networks (“SSEN”), which is the trading name of Scottish Hydro Electric Transmission Plc (“SHET”), Scottish Hydro Electric Power Distribution Plc (“SHEPD”) (of Inveralmond House, 200 Dunkeld Road, Perth, Perthshire PH1 3AQ) and Southern Electric Power Distribution Plc (“SEPD”) (of No.1 Forbury Place, 43 Forbury Road, Reading, United Kingdom, RG1 3JH). SHET and SHEPD are subject to the laws of Scotland. SEPD is subject to the laws of England and Wales.

We use your information as further explained in this Privacy Notice. We’ll be the “controller” of the information you provide to us. If you live in Scotland, SHET and SHEPD will be the controller of the information you provide to us. If you live in England, SEPD will be the controller of the information you provide to us. “We”, “we’ll”, “our”, “us” etc. when used in this Privacy Notice will be interpreted as relating to the relevant data controller.

This Privacy Notice covers the following processing activities of SSEN:

- Customer Operations and Complaints;
- Connections;
- Wayleaves (land rights);
- Innovations;
- Stakeholder Engagement;
- Priority Services; and
- Smart Meter

SMART METER

What do we do with your personal information?

SSEN will access and utilise personal data from Smart Meters installed in customers’ homes, including aggregated half hourly electricity consumption data in order to fulfil our Regulated Duties, and to develop and maintain an efficient, co-ordinated and economical system of electricity distribution. It will also be used to ensure that new low-carbon technologies are connected efficiently and economically without affecting supply to existing customers and where possible avoid the need to reinforce the network.

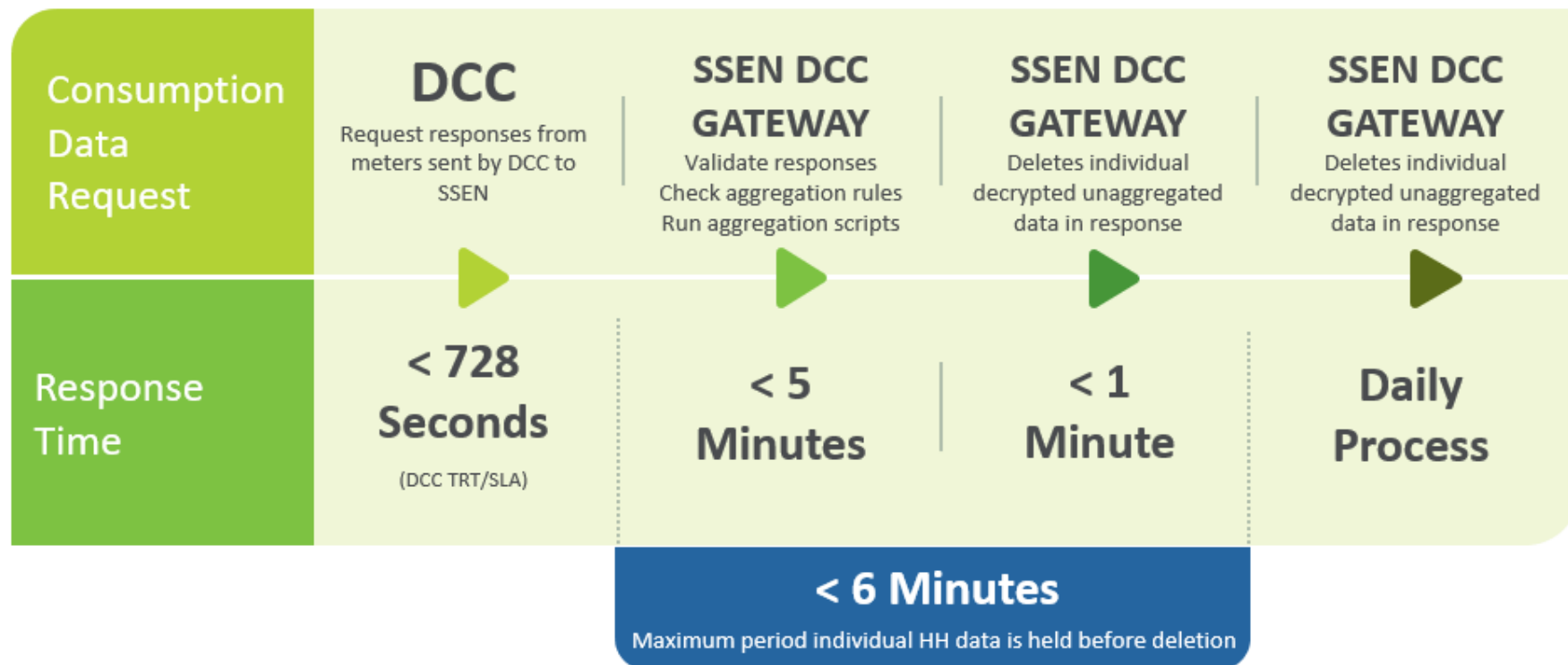
Appendix I System End to End Process of Aggregation

[Redacted]

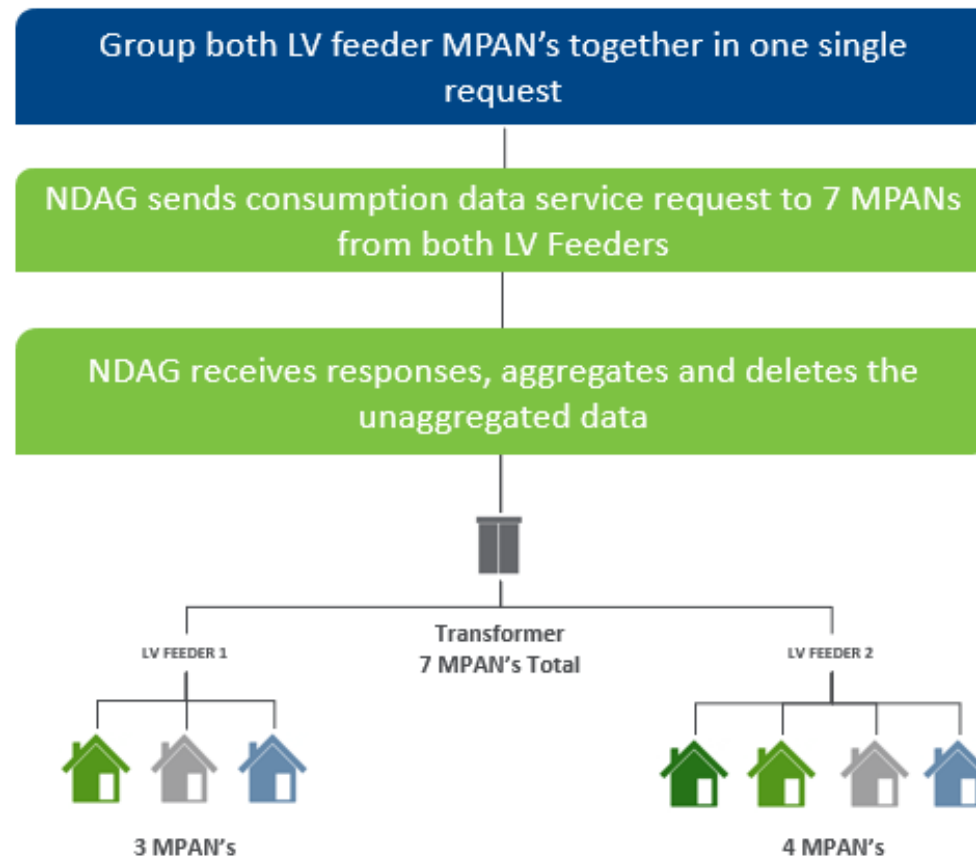
Appendix J Aggregation Process and Deletion Time

The below diagram explains the processing time from when SSEN receives the individual service request responses for half-hourly consumption data.

The aggregation process will complete within 5 minutes and the deletion of individual unaggregated encrypted and decrypted data is deleted within a few seconds, therefore the total time for SSEN aggregation and deletion process is no longer than 6 minutes.



Appendix K Aggregation Multiple LV Feeders



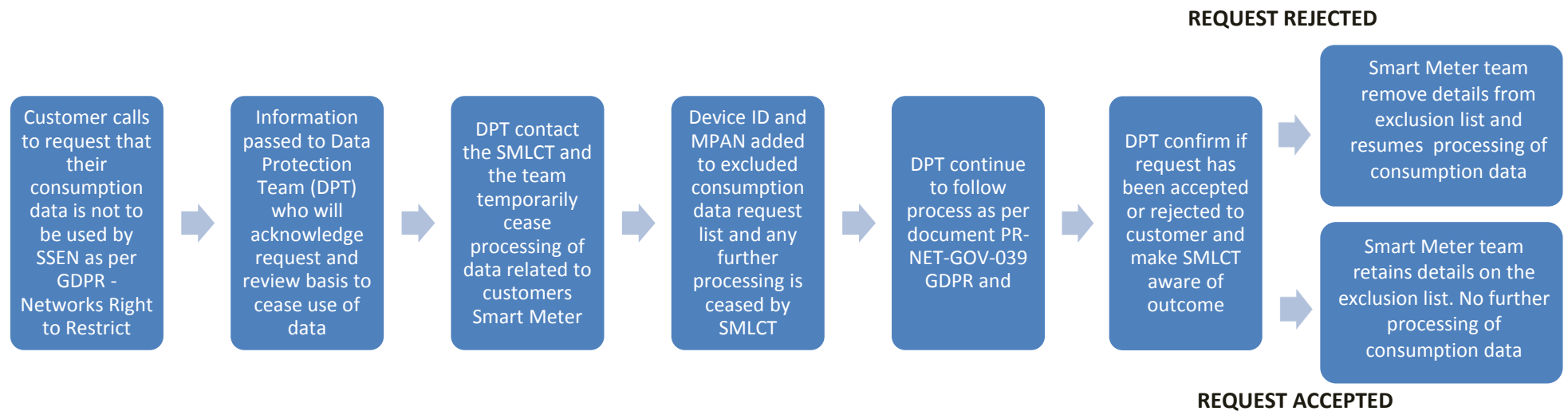
Any subsequent requests for the same MPAN for an overlapping period within 12 months will be rejected to prevent disaggregation through repeat requests from multiple data sets

Appendix L NDAG Consumption Data Requests and Subject Access Requests (SAR)

There may be occasions where a customer will contact SSEN regarding the use of their personal data within their smart meter and request for SSEN, not to process their consumption data. This is known as Right to Restrict (RtR). When these cases arise, a pre-defined process must be followed. SSEN have company procedures for the following requests;

- Networks Right to Restrict or Object to Processing Procedure.
- Networks Right to Erasure Procedure
- Networks Subject Access Request Procedure

Alongside the Data Protection team who will initially receive the request, the Smart Meter team will ensure the request has been documented internally and alongside this, the customers data is not processed whilst the RtR is processed and has reached conclusion. The Smart Meter team will maintain an exclusion list of MPANs that will be removed from the monthly automated consumption data collection process and record evidence for audit purposes. The process flow diagram below, details at a high level the steps taken for each RtR received.



Appendix M ISO27001:2013 Certificate

[Redacted]

Appendix N SSEN Ipsos MORI Stakeholder Engagement (Quantitative)

Aims and context of the research

This research builds on a qualitative research project conducted for SSEN in 2018. The 2018 research was commissioned to support SSEN in their submission to Ofgem under SLC10A. This license would grant SSEN access to smart meter consumption data. The 2019 research provides further quantitative data to build on the findings from the qualitative research, which showed that in general consumers were open to the idea of SSEN accessing half-hourly smart meter data, and generally felt comfortable with the aggregation and anonymisation processes. There was a small group of customers who were less comfortable.

The overall aim for these research projects is to understand consumer attitudes to SSEN accessing half-hourly electricity consumption data contained in smart meters, when aggregated to a small number of homes. The quantitative study, in particular, aimed to measure:

- Attitudes towards perceived sensitivity of electricity consumption data
- Consumer attitudes towards SSEN accessing half-hourly electricity consumption data
- The extent to which consumers understand and accept benefits of SSEN accessing half-hourly electricity consumption data

In addition to the above core objectives, the survey captured levels of consumer awareness of SSEN, as well as whether a smart meter has been installed, or is booked to be installed; these were both found to be important factors related to attitudes around SSEN access to half-hourly data in the qualitative research. To achieve this, the research consisted of a short online survey of 1,000 participants who live within SSEN's license areas (via an online panel), as identified by their postcodes in Central Southern England and Northern Scotland. More information on the survey sample and methodology, including the questionnaire, is available at the end of the report.

Research Project Approach

Following on from the qualitative work in 2018, Ipsos MORI were commissioned to deliver quantitative research on the same topic.

The quantitative data was gathered by through an online survey which was sent to participants between 22/11/2019 - 02/12/2019. The survey was sent to participants of Ipsos MORI's online panel.

The survey achieved the targeted 1,000 responses. The survey was targeted towards people living within SSEN's two license areas; Southern England and Northern Scotland. Participants could be anyone aged 18+ living within postcodes serviced by SSEN. Participants entered their postal code to confirm their address, and only those living within postal codes served by SSEN were able to respond to the survey.

750 responses were obtained from the Southern England license area, and 250 responses from the Northern Scotland area. This split was selected to be reflective of the amount of houses served by SSEN in the two areas.

Quotas on age and gender were applied during the fieldwork stage which were based on ward-level demographics. This demographic data was obtained from ONS and wards within SSEN's license areas were selected. This data was obtained for both the Southern England and Northern Scotland license areas.

Once the fieldwork was completed, weighting was applied to correct for any unmet quotas. This data was based on the Southern England: Northern Scotland customer split and the demographic information previously gathered.

Summary of Key Findings

Most participants are comfortable with SSEN accessing smart meter data

Participants were generally comfortable with the idea of SSEN accessing smart meter data (71%). This is consistent with the findings from the 2018 qualitative research, wherein participants in general felt happy for SSEN to access data from smart meters.

The levels of comfort with SSEN accessing smart meter data are comparable with levels of comfort with electricity suppliers (70%) accessing smart meter data; this is notable because suppliers have already been granted access to the data.

The results from the quantitative research suggest that participants understood the reasons for SSEN accessing smart meter data, including the benefits that access to this data could bring.

These results were similar across both North and South licence areas.

Those more comfortable with SSEN accessing electricity data tend to be more positive about smart meters

There is a group of customers who are particularly comfortable with, and open to, SSEN's proposal to access half hourly electricity data from smart meters. This group are more likely to have a smart meter, feel smart meter data is not sensitive, and be positive about the smart meter rollout bringing benefits. This is consistent with findings from the qualitative research.

While the qualitative research found that older groups across a range of social grades were less comfortable with SSEN accessing smart meter data, there was not a significant difference in level of comfort by age in the quantitative research.

Using the data to make improvements to the service is the greatest priority for customers

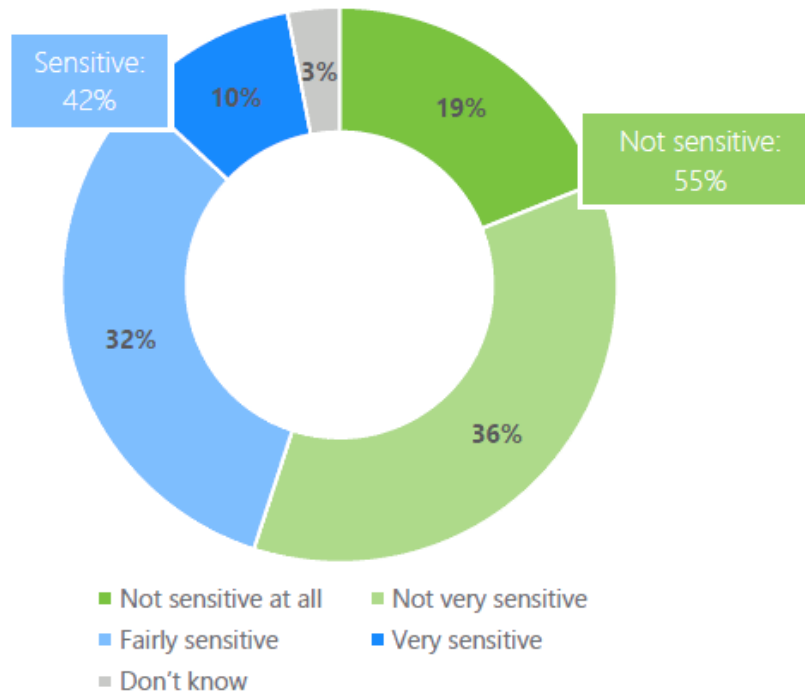
Making improvements to the service by quickly identifying power outages and ensuring the network can service the homes is the most important priority to SSEN customers. The majority of participants also understood the importance of half hourly smart meter data in **helping SSEN to make better investment decisions**, valuing the opportunity to make the network more efficient. These aspects could be important for any future communications with customers.

Only using the data for the reason it has been obtained, and not selling this data on, is one of the most important factors for the majority of participants. **Reassuring customers about this** may support SSEN in any future communications.

Contextual Perceptions

Split perceptions of how sensitive electricity data is

Q2. How sensitive or not do you feel data about your household's electricity usage at 30-minute intervals is? - All participants



Just over half feel that electricity consumption data is not sensitive (55%), with around four in ten feeling that it is sensitive (42%). This is consistent across licence regions. Younger participants (aged under 35) are significantly more likely to believe that electricity consumption data is sensitive (49%) than those aged 35-54 (37%) and 55+ (40%).

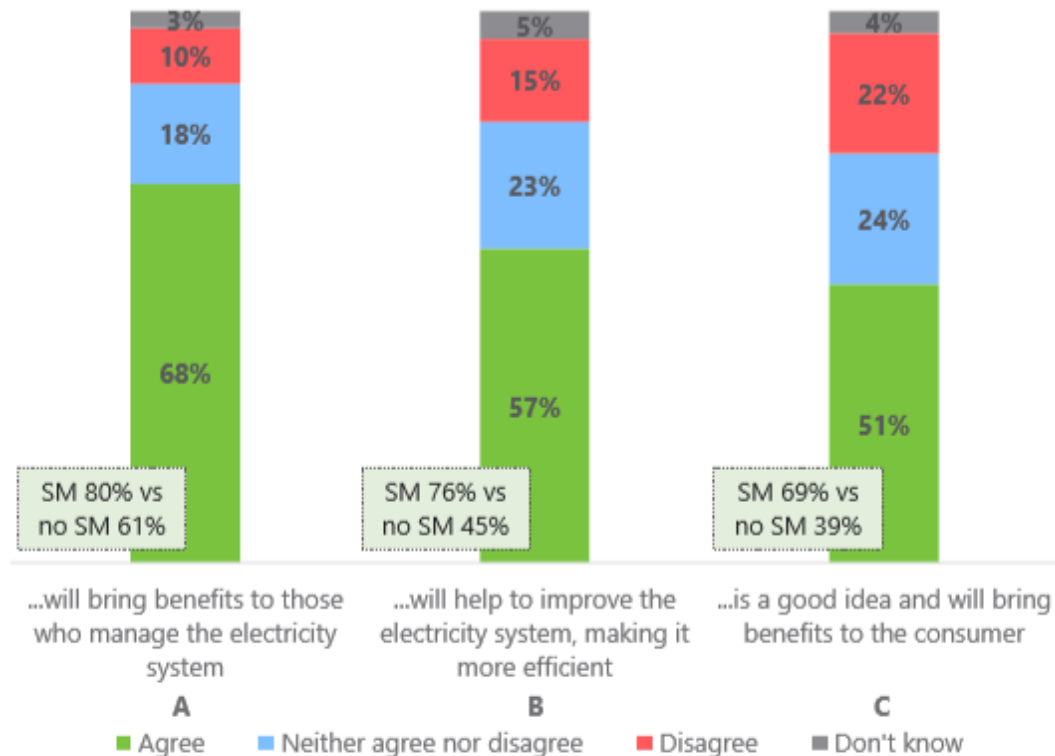
Belief that smart meter data is sensitive or not remains the same whether the participants have a smart meter or not.

Base: All participants, 1,000

The majority agree smart meters will bring benefits

Q8. To what extent do you agree or disagree with the following statements?

I think the installation of smart meters in UK homes...



Base: All participants, 1,000

SM = say they have a smart meter

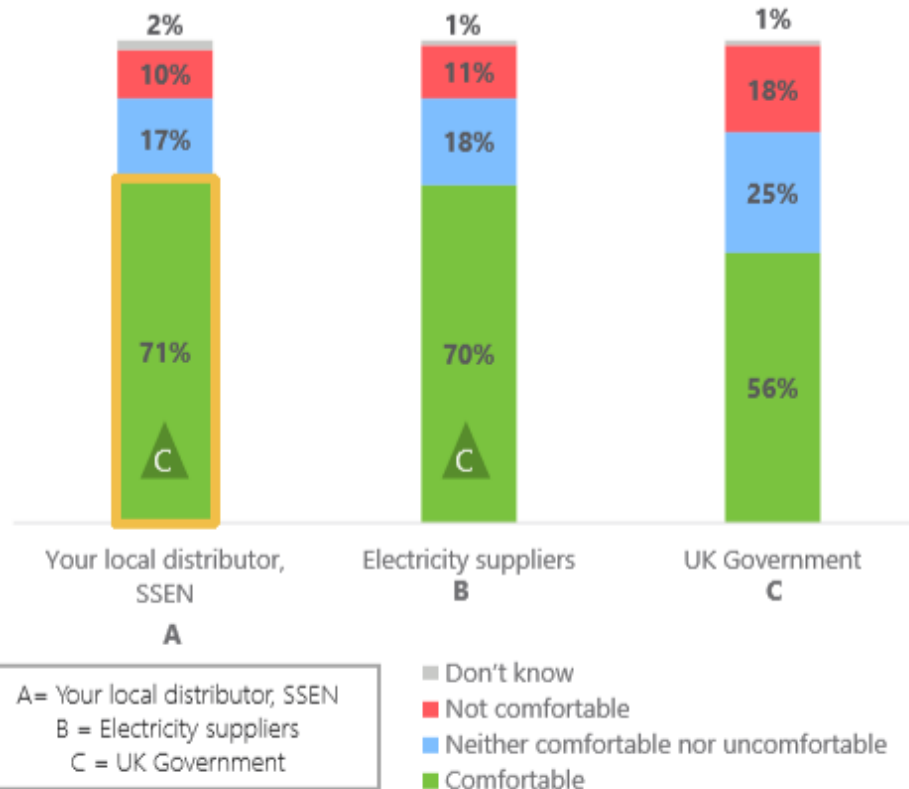
The statements posed to participants suggest that consumers understand the benefits of the smart meter roll out and the majority agree that the smart meter roll out will have benefits in the UK, however fewer feel that there would be benefits to consumers than to the electricity system.

Participants aged under 55 are more likely to agree that smart meters will make the system more efficient and bring benefits to the consumer.

Attitudes to SSEN accessing half-hourly consumption data

Most consumers comfortable with SSEN accessing data

Q3. Based on the information you have read, how comfortable or not would you be sharing electricity use data with the following organisations?



Base: All participants, 1,000

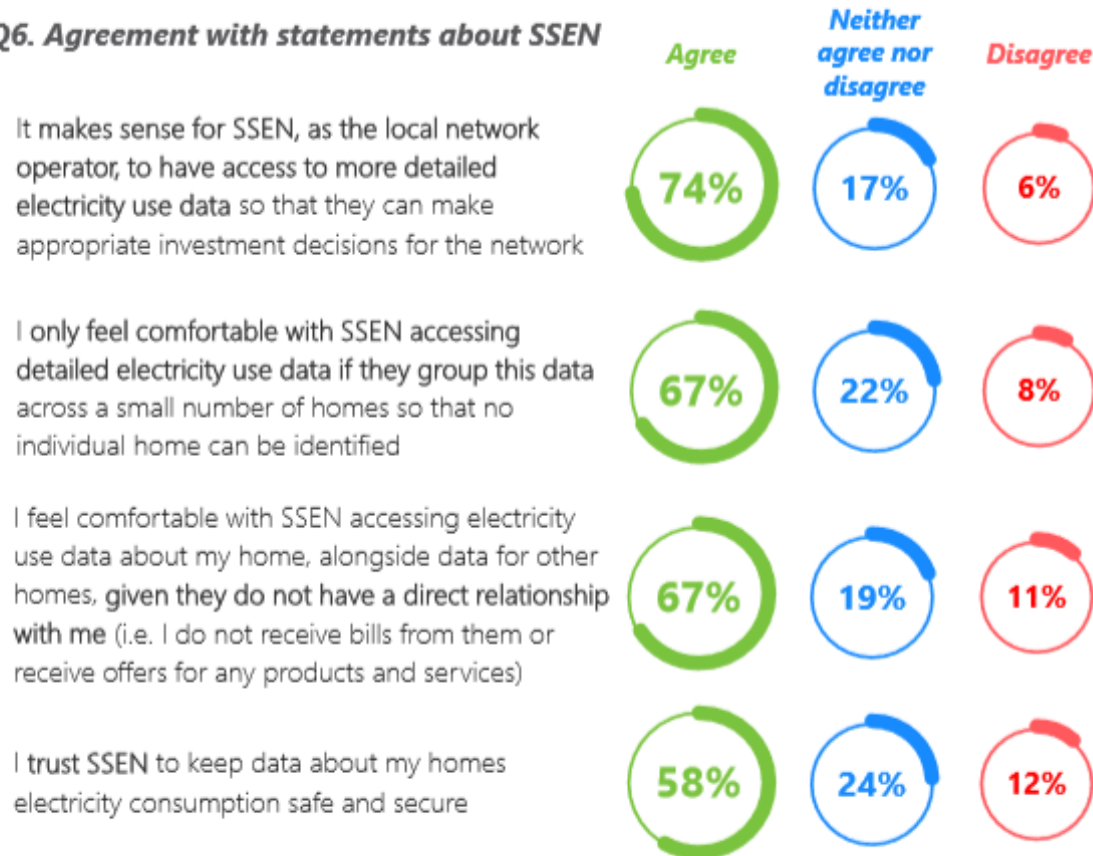
The majority of participants are comfortable with SSEN and electricity suppliers accessing data from smart meters (71% and 70% respectively). This is important because suppliers have already been granted access to smart meter data.

Participants who feel that electricity consumption data is not sensitive are significantly more likely to be comfortable (84%) than those who do feel it is sensitive (59%).

Participants who agree that smart meters are a good idea are also more likely to be comfortable with SSEN accessing smart meter data (85%) than those disagree (45%).

3 in 4 agree it makes sense for SSEN to access SM data

Q6. Agreement with statements about SSEN



Whilst low levels of disagreement across statements suggest that consumers understand the reasons behind SSEN's proposal to obtain access to electricity consumption data, around one in five are unsure which could indicate that a minority of participants remain uncertain about SSEN's proposal.

Base: All participants, 1,000

Some customer groups are more supportive than others

Only a minority of participants *disagree* with the statements asked about SSEN and its access to half hourly electricity, with just 6% disagreeing that it makes sense for SSEN to have access to more detailed electricity data.

Q6. Agreement with statements about SSEN

It makes sense for SSEN, as the local network operator, to have access to more detailed electricity use data so that they can make appropriate investment decisions for the network

Disagree

6%

I only feel comfortable with SSEN accessing detailed electricity use data if they group this data across a small number of homes so that no individual home can be identified

8%

I feel comfortable with SSEN accessing electricity use data about my home, alongside data for other homes, given they do not have a direct relationship with me (i.e. I do not receive bills from them or receive offers for any products and services)

11%

I trust SSEN to keep data about my homes electricity consumption safe and secure

12%

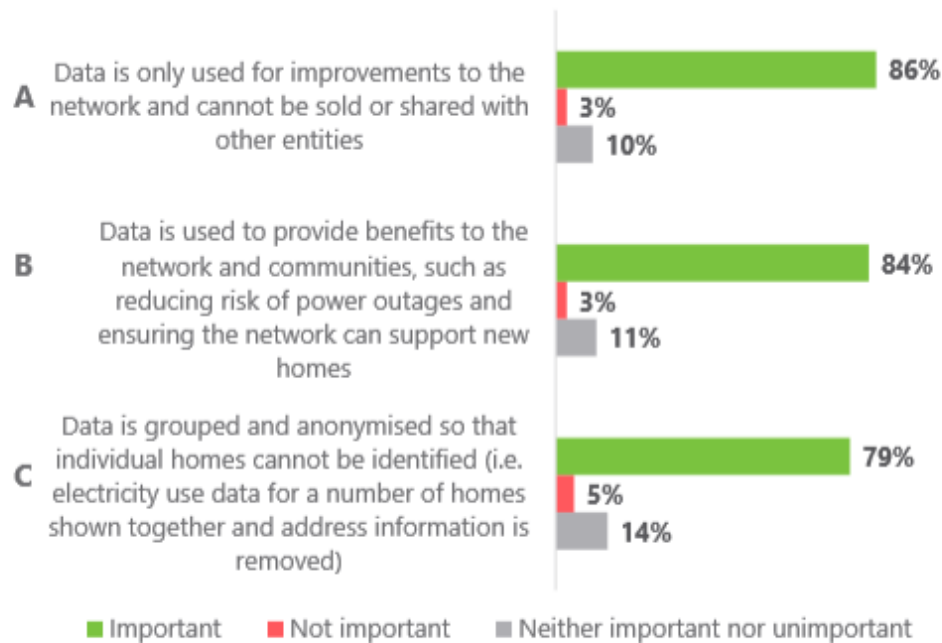
Disagreement with statements about SSEN tends to be higher among those who do not have a smart meter, who think that smart meter electricity data is sensitive and are not comfortable with SSEN accessing half hourly electricity data from smart meters.

Base: All participants, 1,000

Important that data is used for improvements

Most participants (around four in five) feel it is important that SSEN uses data to improve and benefit the network, and that data is grouped and anonymised.

Q4. When considering the idea of SSEN accessing electricity use data, how important or not are the following factors to you?



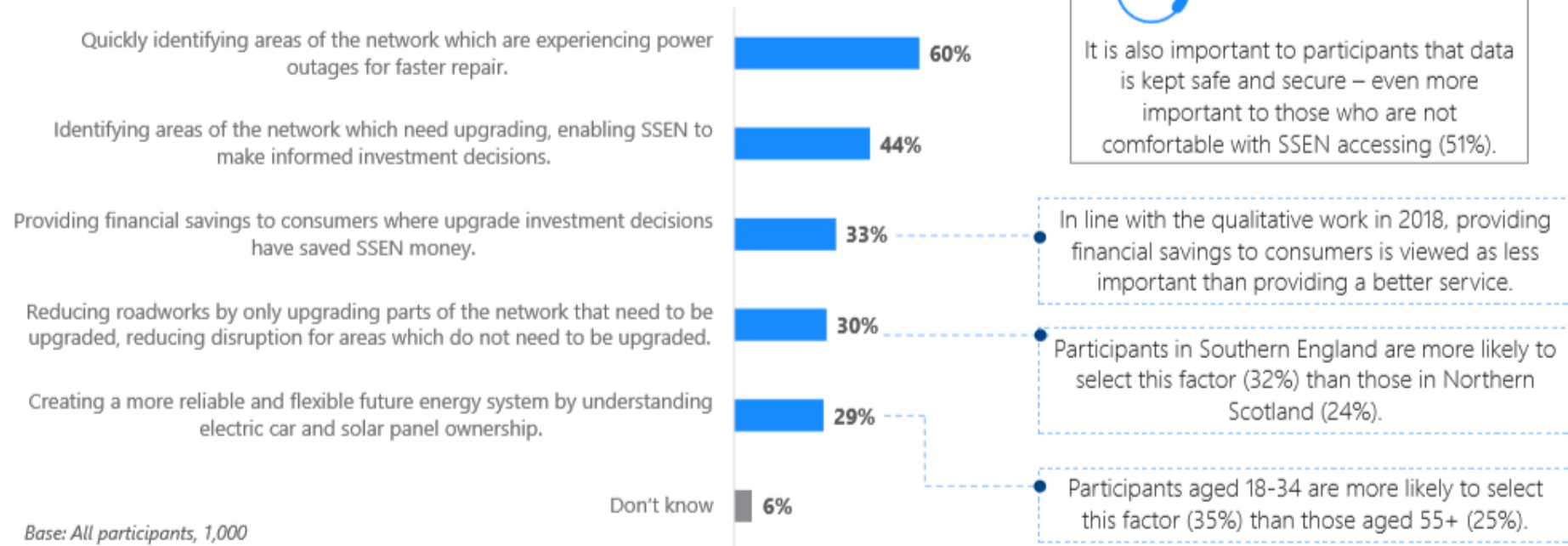
Older participants (aged 55+) are significantly more likely to believe these factors are important than their younger counterparts; on average 87% for 55+ compared to average 77% for 18-34 year olds.

Base: All participants, 1,000

Accessing data to improve the service is greatest priority

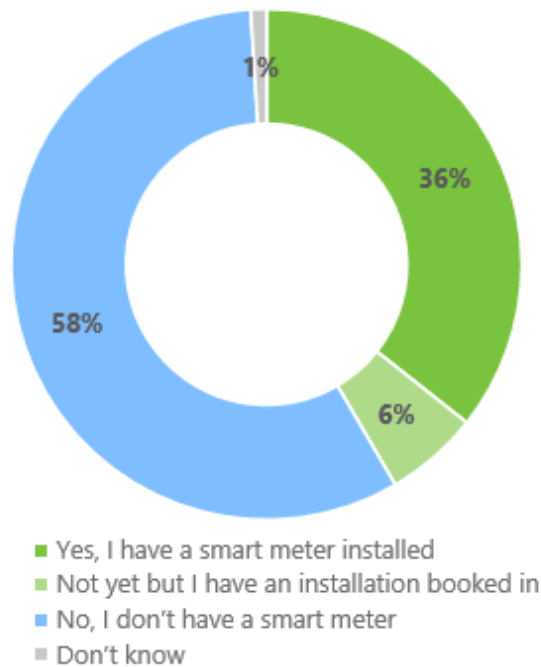
The majority of participants feel that quickly identifying faults in the network should be SSEN's greatest priority if SSEN obtained access to smart meter data (60%). This indicates that participants understand the benefits of SSEN accessing smart meter data. Similarly to the qualitative work, providing financial savings to consumers is viewed as less important than other factors.

Q5. Which of the following factors do you think should be the greatest priority for SSEN if they access electricity use data? (Pick up to three)



Participants who report having a smart meter

Q7. Do you currently have a smart meter?



Over two fifths of participants (42%) either say they have a smart meter installed already or say have an installation booked in. The majority of participants (58%) say they do not have a smart meter.

Participants living in the Southern England license area are significantly more likely than those in the Northern Scotland license area to say they have a smart meter (38% and 27% respectively).

Base: All participants, 1,000

Some customer groups are more supportive than others

Smart meter owners (or those with installation planned), those who agree the smart meter rollout will benefit customers, and those who are comfortable with SSEN accessing smart meter data are more likely to agree with all statements.

Q6. Agreement with statements about SSEN

Agree

It makes sense for SSEN, as the local network operator, to have access to more detailed electricity use data so that they can make appropriate investment decisions for the network

74%

Higher among those who don't think smart meter data is sensitive (86%)

I only feel comfortable with SSEN accessing detailed electricity use data if they group this data across a small number of homes so that no individual home can be identified

67%

Higher among over 55s (72%), those living in rural areas (75%) and those who feel smart meter data is sensitive (71%)

I feel comfortable with SSEN accessing electricity use data about my home, alongside data for other homes, given they do not have a direct relationship with me (i.e. I do not receive bills from them or receive offers for any products and services)

67%

Higher among those who have heard of SSEN (70%) and don't think smart meter is data is sensitive (79%)

I trust SSEN to keep data about my homes electricity consumption safe and secure

58%

Higher among those who have heard of SSEN (63%) and don't think smart meter is data is sensitive (67%)

Base: All participants, 1,000