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Consumer views on sharing half-hourly settlement data

Research report

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Overview:

This document sets out key findings from survey research conducted by Ofgem to explore consumer views on the sharing of half-hourly energy consumption data. The research surveyed a nationally representative sample of 1,467 GB bill payers using a face-to-face approach in March 2018.

The results indicate that consumers generally consider energy consumption data to be much less sensitive than most other types of personal data. Around half of consumers are willing to share their energy consumption data where they can see personal benefits (i.e. financial savings, improved energy efficiency).

Almost two-thirds of consumers are willing to share their data to improve the overall operation and efficiency of the market, for the benefit of all consumers. In most instances, consumers with smart meters are more willing to share their data for these purposes than those yet to experience having a smart meter.

Context

Our energy system is becoming smarter and more flexible. Half-Hourly Settlement is one of the key enablers of this transition. It will put incentives on electricity suppliers to help their customers shift their consumption to times when electricity is cheaper to generate or transport, enabling significant benefits for consumers and the energy system as a whole. We are considering whether to change rules specifically for access to half-hourly electricity consumption data for settlement purposes.[1] We have therefore sought views from consumers on attitudes to sharing energy consumption data generally and specifically for settlement purposes in particular in this nationally representative survey. We also spoke to our Consumer First Panel to understand their on this topic.

Associated documents

The full data tables for this survey are available on the Ofgem website
https://www.ofgem.gov.uk/publications-and-updates/consumer-research-datasets

Ofgem Consumer First Panel, Year 9, Wave 3, Half-Hourly Settlement
https://www.ofgem.gov.uk/publications-and-updates/ofgem-consumer-first-panel-year-9-wave-3-half-hourly-settlement

Consultation on access to half-hourly electricity consumption data for settlement purposes and accompanying Data Protection Impact Assessment
https://ofgem.gov.uk/publications-and-updates/consultation-access-half-hourly-electricity-data-settlement-purposes

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

Contents

1. Attitudes to data sharing

Acceptance of data sharing in general

In general, around half of bill payers are happy to share data with organisations with whom they have a relationship and are comfortable with the amount they share.

Almost half of consumers (48%) agree that they are comfortable with the amount of information they give to organisations (34% disagree; 18% are neutral) and a similar proportion (47%) agree that they are happy to share their data with organisations they have a relationship with (38% disagree; 15% are neutral).

Table 1: Attitudes to general data sharing

Q: "To what extent do you agree or disagree that …"

Weighted Base: 1433	"I am happy to share my data with organisations I have a relationship with"	"On the whole, I am comfortable with the amount of personal information I give to organisations these days"
Agree strongly	13%	15%
Agree slightly	34%	33%
Neither agree nor disagree	15%	18%
Disagree slightly	16%	17%
Disagree strongly	22%	16%

On both measures, younger people are more accepting than those approaching retirement age (55-64), with well over half of those aged 16-34 content with their data sharing. Those aged over 65s are more accepting than the 55-64 bracket. The difference in attitudes among the oldest age groups could potentially be due to a number of factors including: reflecting a lower level of understanding about data sharing; reflecting less data sharing due to lower internet and social media usage; or simply reflecting a greater reluctance to adopt newer technologies.

In particular, slightly older people are significantly more likely to *disagree* that they are comfortable with the amount of information they share (levels of agreement are more stable), with 45-64s the least comfortable.

In a similar vein, 48% of those with internet access are comfortable sharing their data vs. 37% of those without access. Ninety per cent of UK households have internet access.[2]

The same pattern is evident with younger people, who are much more likely to agree that they are happy to share data with an organisation they have a relationship with than older people, with 55-64s the least comfortable. Fifty eight per cent of 16-24s agree, 59% of 25-34s, falling to 50% of 35-44s with a further fall to 45% of 45-54s and just 34% of 55s-64s. It rises again to just over 40% for over 65s.

It is also evident that consumers in social grades C2DE are less comfortable sharing their data (51% comfortable/ 38% uncomfortable) than those in social grades ABC1 (46% comfortable/ 29% uncomfortable).

Perceptions of sensitivity of personal data

When it comes to personal data, financial and medical records are considered to be the most sensitive by a significant margin. Only 10% of consumers put smart home device data in their top three most sensitive types of data and just 4% include half-hourly energy consumption data.[3]

The high level of "don't know" responses for the least sensitive types of data may suggest a reluctance to deprioritise certain types of data and/or reflect that some types of data are not relevant to all consumers. It is also possible that this demonstrates a lack of understanding of what the implications of sharing or not sharing some types of data may be.

Table 2: Personal data perceived to be most sensitive

*Q: "Which of the following types of personal data do you think are **the most sensitive**? Please rank your top 3."*

Weighted Base: 1433	In top 3 mentions	1st mention	2nd mention	3rd mention
Financial records	77%	40%	23%	13%
Medical records	63%	24%	24%	14%

[2]https://www.ons.gov.uk/peoplepopulationandcommunity/householdcharacteristics/homeinternetandsocialmediausage/bulletins/internetaccesshouseholdsandindividuals/2017

[3] One important caveat should be noted with regard to this data: the timing of the survey coincided with the peak period of coverage of the Cambridge Analytica/Facebook data issues so this may have affected responses to the survey.

Contact details for family and friends	40%	9%	13%	18%
Photos and videos	28%	7%	11%	10%
Social media activity	16%	6%	5%	5%
Location data	14%	3%	5%	6%
Web browsing history	14%	4%	4%	7%
Smart home/ connected device data	10%	2%	2%	6%
Half-hourly energy consumption data	**4%**	**1%**	**1%**	**1%**
Don't know	4%	4%	12%	19%

Table 3: Personal data perceived to be least sensitive

*Q: "Which of the following types of personal data do you think are the **least sensitive?** Please select 3."*

Weighted Base: 1433	In top 3 mentions	1st mention	2nd mention	3rd mention
Financial records	3%	1%	1%	1%
Medical records	6%	2%	2%	2%
Contact details for family and friends	6%	3%	2%	1%
Photos and videos	13%	5%	5%	4%
Smart home/ connected device data	22%	6%	10%	6%
Social media activity	27%	13%	8%	7%
Web browsing history	27%	12%	8%	7%
Location data	31%	14%	9%	8%

Half-hourly energy consumption data	**49%**	**30%**	**12%**	**8%**
Don't know	14%	14%	45%	56%

Energy data

Half-hourly energy consumption data is ranked as the least sensitive type of data from the options presented to consumers. It was considered to be in the top three most sensitive items of data by 4% of consumers and included in the least sensitive three items of data by 49%. In contrast, while smart home/ connected device data is only put in the top three most sensitive types of data by 10%, it is also only in the bottom three for 22% - evidently it is seen as more sensitive than energy data, though still less sensitive than most other kinds.

Direct Debit customers are least likely to put half-hourly energy consumption data in their top three most sensitive types of data (2%) and PPM customers the most likely (5%). However, there is no difference between customers who do and do not have a smart meter (both 4%).

Younger consumers are more likely to put half-hourly energy consumption data in their bottom three than older consumers: 60-63% of 16-44s have it in their bottom three, compared to 41-48% of 45-74s, though for the latter group, half-hourly consumption data was still the least sensitive form of personal data of those surveyed.

2. Sharing half-hourly energy consumption data

The survey gauged consumer willingness to share their half-hourly energy consumption data in a range of different scenarios or use cases: some use cases are 'consumer-facing' in the sense that the bill payer would directly and personally see the results and benefits of data sharing; the others are 'market operation' use cases, whereby there is no direct visibility of the impact of the data sharing for the bill payer (i.e. the benefit accrues at the system level).

Willingness to share in consumer-facing use cases

Consumers were provided with a brief, simplified explanation of half-hourly energy consumption data before answering about their willingness to share such data.

In most potential consumer-facing use cases, just over half of bill payers would be willing to share their half-hourly smart meter data. A third (34%) would be willing to share in all of the scenarios tested and a further 38% are willing to share in at last one scenario, but 15% are not willing to share in any scenario. The remainder are unsure in all scenarios or a mix of unsure and unwilling.

Around a quarter are actively unwilling to share data in most of the situations tested, rising to almost a third for the option to find out about other products and services – which may sound more like marketing to some consumers - with the remainder undecided.

Willingness to share wanes slightly as the potential personal benefits, particularly financial, become less obvious. Almost two-thirds (61%) would be willing to share to receive information on more suitable tariffs, over half (57%) to obtain energy efficiency suggestions, and a similar proportion to get a discount (56%) or monitor energy consumption in real-time (54%). In each of these scenarios around one-quarter (22%-27%) would be unwilling to share. Fewer (47%) would be willing to share to find out about other products and services of interest to them and almost a third are unwilling to do this (31%).

Table 4: Willingness to share data in consumer-facing use cases

Q: "How willing would you be to share your half-hourly smart meter data in each of the following situations?" 5 point scale: Not at all willing – Very willing.

Weighted Base: 1433	To receive information about more	To receive suggestions on how to be more	If ongoing sharing of data meant you could	To see an online live view of how much	To find out about other energy products

	suitable tariffs	energy efficient	get a discount on your bill	energy you are using	and services of interest to me
Very willing	26%	24%	24%	24%	16%
Quite willing	35%	33%	32%	30%	31%
Neither willing nor unwilling	16%	18%	18%	19%	22%
Not very willing	11%	13%	13%	12%	15%
Not at all willing	11%	12%	13%	15%	16%

In line with general attitudes to data sharing, younger consumers are more willing to share in every scenario. For example, 76% of 16-24s would be willing to share in order to receive information on more suitable tariffs, vs. 50% of 65-74 year olds and 47% of those aged 75 and over. In all other scenarios, almost half of consumers aged 65 or over are willing to share data. For example, at the other end of the interest spectrum, 54% of consumers aged 16-24 are willing to share data to find out about other energy products and services, vs. 38% of 65-74 year olds and 33% of those aged 75 and over.

Similarly, non-internet users are less willing to share their data in every scenario.

Current smart meter owners are more willing to share their data to get tariff information (67% vs. 59%) and to get a discount on their bill (63% vs. 54%) but not significantly more willing to share in other scenarios.

Those most disengaged from the energy market (i.e. who have never switched energy supplier) are significantly less willing to share their data in all scenarios compared to recent supplier switchers (last 4 years), except in relation to finding out about products and services. For example, 72% of recent supplier switchers would share data to find out about more suitable tariffs compared to 49% of those who have never switched.

Willingness to share in 'market operation' use cases

Consumers were then provided with a brief, simplified explanation of how half-hourly energy consumption data can be used by the industry for electricity settlement before answering about their willingness to share their data for such purposes.

"The half-hourly data can also be used to make sure that the amount of energy suppliers buy from generators tallies up with how much they sell to their customers and that suppliers are charged correctly. How willing would you be to share your half-hourly smart meter data in each of the following situations?

(By generator we mean the companies that produce electricity, such as those operating power stations or wind farms)."

Willingness to share half-hourly energy consumption data to improve market operation is slightly higher than for the consumer-facing use cases, with almost two-thirds of consumers willing to share in each scenario. Over half (55%) would be willing to share in all of the scenarios tested, whilst 71% are willing to share in at least one scenario. Thirteen per cent are not willing to share in any scenario. The remainder are unsure in all scenarios or a mix of unsure and unwilling.

Table 5: Willingness to share data in market operation use cases

Q: "How willing would you be to share your half-hourly smart meter data in each of the following situations?" 5 point scale: Not at all willing – Very willing.

Weighted Base: 1433	**To make sure energy suppliers are charged correctly for the electricity their customers use (settlement)**	To improve the ability of my supplier to predict how much electricity they need to buy in advance	To improve the overall efficiency of the energy market to help bring down costs for all consumers over the next few years
Very willing	**26%**	24%	27%
Quite willing	**39%**	36%	38%
Neither willing nor unwilling	**19%**	22%	19%
Not very willing	**8%**	9%	7%
Not at all willing	**8%**	9%	9%

Differences in willingness to share half-hourly data by age are less pronounced than with the consumer-facing scenarios, although over 65s remain less willing to share on average.

Nonetheless, other broad trends remain the same with the following groups all more willing to share their data in all scenarios:

- Customers with internet access are more willing to share their data (e.g. 67% willing to share to ensure energy suppliers are charged correctly, vs. 48% of those without access);
- Smart meter customers are more willing to share their data (e.g. 68% willing to improve the ability of their supplier to predict how much electricity they need to buy, vs. 57% of non-smart customers);
- Recent supplier switchers are more willing to share than disengaged customers (e.g. 74% of those who switched in the last year willing to improve the overall efficiency of the market and bring costs down for all consumers, vs. 53% of those who have never switched supplier).

Trust in organisations to handle data

Ofgem and current energy suppliers are the most trusted organisations to handle half-hourly data (trusted by 61% and 58% respectively), followed closely by a central body appointed to process the data from all consumers (trusted by 53%).[4] Commercial parties are significantly less trusted, with 38% trusting a company appointed by their supplier and 35% a third party the consumer has given data access to.

Table 6: Trust in organisations to handle half-hourly energy consumption data

Q: "How much would you trust the following organisations to handle your half-hourly energy usage data?" 5 point scale: Don't trust at all – Trust completely.

Weighted Base: 1433	Ofgem, the independent regulator	Your energy supplier	A central body appointed to process the data from all consumers to make sure suppliers are charged the correct amount	Companies appointed by your energy supplier to help them with their data management	Any third party you have given permission to access your data[5]

[4] Again, it is worth noting that the timing of the survey coincided with the peak period of coverage of the Cambridge Analytica/ Facebook data issues so this may have depressed all trust figures. The relative differences between institutions are of as much interest as the overall figures.

[5] Full text: Any third party you have given permission to access your data (for example an app that helps you manage your energy consumption and costs)

Trust completely	19%	15%	12%	8%	7%
Somewhat trust	42%	43%	41%	31%	27%
Neither trust nor distrust	28%	25%	30%	33%	32%
Somewhat distrust	6%	10%	9%	17%	17%
Don't trust at all	5%	7%	8%	12%	16%

Patterns of trust mirror those seen in terms of general attitudes to data sharing and willingness to share half-hourly energy consumption data specifically.

Trust in all organisations is highest among those aged 16-24 (peaking at 75% for trust in their current energy supplier, dropping to 45% for a third party). Trust declines progressively with age for all organisations except current energy supplier, when as with some earlier indicators, those aged 56-65 are the least trusting (50%), with older consumers slightly more so (58% of those aged 66-74 and 53% of those aged 75 or older).

Similarly, trust is higher among internet users than non-users. For example, 63% of those with internet access trust Ofgem, compared to 48% of those with no access. 36% trust a third party they have given permission to access data vs. 24% of those without access.

Smart meter users are more trusting of their energy supplier than non-smart customers (69% vs. 54%) and companies appointed by them (45% vs. 36%) but no different in their trust of other organisations.

Appendix 1 – Methodology

Survey questions were designed and developed by Ofgem. The survey questions were placed on the Kantar TNS face-to-face GB Omnibus, with fieldwork conducted 21-25 March 2018. Questions were asked of those responsible or jointly responsible for the gas and/or electricity bills in their household. Throughout this report, where we refer to "consumers" we mean specifically current energy bill payers.

Data tables were prepared by Kantar TNS. Analysis and reporting of the data has been conducted by the Consumer and Behavioural Insights team at Ofgem, within the Office of Economics and Research.

The Kantar TNS Omnibus

1.1. The Face to Face Omnibus uses a random location sampling methodology and can provide data for up to 2,000 GB adults 16 or over per wave. Two F2F surveys run weekly using identical methodologies each interviewing 2,000 GB Adults so 4,000 GB Adults can be available each week. In existence for over 30 years, it is the largest weekly omnibus in the country.

1.2. The survey is designed to be representative of adults aged 16+. No upper age limit is applied to the sample.

1.3. All interviews are conducted in accordance with strict Quality Control Procedures. Each week, the Omnibus limits the average length of the overall interview to no more than 30 minutes, in order to avoid both respondent and interviewer fatigue.

1.4. Interviewing takes place face-to-face in respondents' homes using the Multi Media CAPI pen technology. Interviewing in-home makes it possible for lists and stimulus to be shown.

1.5. The Omnibus random location sampling plan ensures that each wave is conducted amongst a comparable, nationally representative sample.

1.6. The research methodology and analysis is compliant with all relevant legal and ethical requirements including the MRS Code of Conduct, the UK Data Protection Act 1998, and ISO 27001 International Standard for Data Security.