

Smart Meter Energy Data: Delivering on a Public Interest Purpose

Public Interest Advisory Group – Phase 1 Report Launch

Sustainability First & CSE

Monday 22 July 2019

Today

Agenda		
14.05	<p><u>Context-Setting</u></p> <ul style="list-style-type: none"> • Consumer Data, Statistics & the Public Good • Strategy for a Modern Digitalised Energy System 	<p>Ed Humpherson. UK Statistics Authority</p> <p>Laura Sandys Chair. BEIS Energy Data TF</p>
14.50	<p><u>PIAG – Phase 1 Report</u></p> <ul style="list-style-type: none"> • Main Findings • Panel discussion 	<p>PIAG team & PIAG members</p>
Break		
16.05	<p><u>PIAG – Conclusions & Recommendations</u> Panel discussion</p>	<p>PIAG team & PIAG members</p>
17.15	<p>Forward Look & Next Steps</p>	
17.30 – 19.00	<p>Reception</p>	

Consumer Data, Statistics and Public Good

Ed Humpherson
Director General for Regulation
UK Statistics Authority

Strategy for a Modern Digitalised Energy System

Report of the Energy Data Task Force

Laura Sandys
Chair

Session 1

Phase 1 Report - PIAG Main Findings

Simon Roberts

Chief Executive. Centre for Sustainable Energy

&

Maxine Frerk

Associate. Sustainability First

Session 1 - PIAG Main Findings

- Introduction to smart metering, data & privacy
- Why PIAG & how we did it
- Use-cases for the public interest
- Input & output data & the ‘trusted processor’ role
- The consumer view
- Possible routes to data : short & long-term

Introduction to smart metering, data & privacy

- Smart meters are being rolled out to all homes and small businesses – gas & electricity
- Able to provide half-hourly consumption data as well as other technical data (eg export, maximum demand)
- Privacy considerations a key element of GB design - driven by roll-out experience elsewhere:
 - All data is held on the meter – no central data repository
 - Data Access and Privacy Framework governs who can access consumption data – and on what basis (i.e. consent or a regulated need)

Why PIAG ?

- BEIS Smart Meter CBA (Nov 2016) & earlier IA (2014) : largely silent on potential for a wider ‘public interest’ benefit from data
- A main ‘public interest’ purpose of access to smart meter data is **to improve on the current evidence-base of energy-use – to support better public policy-making, delivery & market oversight.**
- A **better evidence-base** - should **serve wider societal goals** at **national, devolved, regional, city and local level** - by enabling improved **research, analysis, prediction & planning, evaluation, targeting & oversight of public policy and market practice.**

How we did it

PIAG - independently convened by Sustainability First & CSE. A deliberative process over 20 months. Brought together key 'public interest' stakeholders for a policy dialogue on :

- How smart meter data might contribute to **potential public interests** - to further public policy goals & aid the energy transition
- **Whether - & under what conditions - smart meter data might be accessed for such public-interest purposes** by government, regulators or other 'public interest' actors, while safeguarding consumer interests.

PIAG – Who's been involved

- **Convenors:** Centre for Sustainable Energy and Sustainability First
- **Funding members:** Ofgem, Energy Systems Catapult, Elexon, Smart DCC (the Data Communications Company), Northern Powergrid, National Grid ESO, UCL Smart Energy Research Lab
- **Others at June 2019 :** Citizens Advice; Committee on Climate Change; CAR Ltd; Electralink; Energy Networks Association; Energy-UK; Energy Saving Trust; Greater London Authority; MHCLG; National Infrastructure Commission; ONS; Ombudsman Services; Scottish Government; Smart Energy GB; TechUK; UK Statistics Authority; University of Edinburgh/Teddinet; University of Exeter; University of Reading; UKERC; Welsh Government; Which?; Xoserve

PIAG process : questions we aimed to answer

- What can smart meter data add to the wider public-interest?
- What does realising public-interest ‘use cases’ require in terms of smart meter data (e.g resolution, links to other data)?
- Who can access smart-meter data and on what basis?
- What do we know about customer-thinking on access to their smart-meter data for a wider public interest / societal purpose?
- What routes could there be to smart-meter data for a public-interest purpose?
- What does governance look like for public-purpose ‘data-users’?

Final PIAG Phase 1 Report covers these themes, incl thinking on how to balance ‘customer’ privacy with public interest considerations

PIAG – Phase 1 Outputs

Nov 2017 – July 2019

- **Phase 1 report** : principles, conclusions & recommendations
- **Inputs to** : BEIS DAPF review, Ofgem settlement reform (data access; TOMs)
- **Developed six public interest ‘use-cases’** : to help clarify what data needed by whom - at what level of resolution - to meet use-case needs & related privacy considerations
- **Identified possible ‘secure’ routes by which to access smart meter data** for a public-interest purpose
- **Ten practical background papers** : to inform debate (slide 11)
- **PIAG communications** : consciously ‘low key’
- **Other initiatives on smart-meter data-access** : DNO Privacy Plans, UCL’s Smart Energy Research Lab, BEIS Energy Data Task Force.
- **PIAG’s main focus = separate – but linked** : to future proof / leave open potential future routes for data-access for a ‘public interest’ purpose

PIAG Project Papers

Public Interest Advisory Group papers

available at <https://www.smartenergydatapiag.org.uk/>

Kick-off stimulus paper	Initial Meeting – 30 November 2017
Working Note	Clarifying what smart meter data could add to the public interest: public interest questions to frame PIAG's work
Stimulus paper 1	Background to ICO Guidance on anonymisation and annex on data access privacy legal framework
Stimulus paper 2	International experience – smart meter data access
Stimulus paper 3	Data ethics – a review of the landscape
Stimulus paper 4	Stakeholder perspectives on smart meter energy data and potential public interest use-cases
Stimulus paper 5	Public interest use-cases: data attributes, data requirements, and associated privacy and access implications
Stimulus paper 6	Consumer research on access to smart meter energy data
Ipsos MORI research report	Customer thinking on privacy in relation to smart meter data for 'public interest' use
Stimulus paper 7	Possible routes to smart meter data for public interest uses
Stimulus paper 8	Capability requirements of public interest data user organisations
PIAG final report	Final Phase 1 paper (Workshop - April 2019. Publication – June 2019)
Annex to PIAG final report	Summary of PIAG project papers

PIAG is a timely discussion in a wider context

- Smart-meter rollout central to energy transition - but with strong privacy protections through the DAPF (& GDPR)
- Other countries - growing interest in access to aggregated data by academics and local government – but all draw on an **existing** central repository of smart meter data
- Other sectors (eg health) grappling with growth in data, balancing privacy and public interest – interest in ‘data ethics’
- Digital Economy Act 2017 : gave new powers to ONS to gather data from private and public-sector bodies for research and statistical purposes

Developing PIAG Public Interest Use Cases

Public-interest use-cases identified by stakeholders

1. **National and sub-national domestic sector energy statistics** (more detail and quicker) – enables wider participation in policy dialogue
2. **Local-level energy system planning** (infrastructure and intervention planning and monitoring etc) e.g Bristol City Council, GLA
3. **Data for analysis and modelling to support policy making, research and insight** e.g distributional impacts
4. Improved intervention design and targeting – NO (consent)
5. Local electricity system ‘live’ monitoring to trigger reactions/interventions in real time - NO
6. **Service innovation, development & testing** of early stage designs/algorithms etc (same data as use-case 3)

Need to distinguish input and output data

- There is no UK database or central repository of smart meter data.
- To create any dataset requires the individual level smart meter records (the **INPUTS**) to be captured and processed by someone (an authorised ‘trusted processor’) – in a privacy friendly way.
- The data-sets required to realise use-cases (the **OUTPUTS**) can be aggregated or sufficiently anonymised so should not raise privacy concerns.

Use-Case 2: Local energy system planning INPUTS

Smart meter data requirements

Temporal resolution	Annual	½ hourly	Below half-hourly
Spatial resolution	National	Pr	Property level
Data capture frequency	Yearly		Live feed

Other data requirements

Building information	None	Detailed fabric info for individual building
Socio-demographics	Area-level info	Single level data for hh marker? household
Other energy data	Yes	EV charging point data, export & local generation Non-domestic energy consumption data

Use-Case 2: Local energy system planning OUTPUT

Smart meter data derived output

Temporal resolution	Annual	½ hourly	Below half-hourly
Spatial resolution	National	Street/Feeder	Property level
Data release frequency	Yearly		Live feed

- Need non-domestic consumption data and local generation data too
- Other existing datasets available to LAs (e.g. IMD) could be overlaid at street/feeder level (by LA) to improve understanding and aid targeting

The Consumer View

Consumer view - building an understanding

- Review of available consumer research:
 - Smart meter specific including ENA research on networks access to data; studies by Ofgem and Citizens Advice
 - Wider research on privacy issues including Which? Control, Alt or Delete? Report
 - Research on government use of data
- Conclusions tested at a consumer expert roundtable - led by Ipsos MORI
- Also drew on learning from wider data ethics debate eg on health

Consumer perspectives

- Wide range of views – *Happy to Share; Depends Who’s Asking; Quid-Pro-Quo; and Big Brother* (Ipsos MORI for ENA)
- ‘Rationally disengaged’ – no choice? (Which?)
- Most consumers see smart-meter data as less sensitive than other data (eg health, finance)
- Potential to reveal lifestyle patterns – and more general concerns re hacking, sale of data, higher prices
- Interest in personal benefits - but can also see potential for wider system benefits
- Broad support expected for these use-cases (but more research impt)
- Assumption that key parties already have this data
- Consumers expect government / regulator to protect their interests

A Trusted Processor Role & Possible Routes to the Data - Short- & Long-Term

A Trusted Processor role

The role played by **ONS** (under the Digital Economy Act 2017) in other sectors:

- ONS has powers to collect data from private sector and government for statistical and research purposes;
- Clear principles set out in legislation for how privacy protected in the process.

Similar to **BEIS** collection currently of individual annual consumption data under Statistics of Trade Act 1947:

- Linked with other demographic data to produce NEED* database and statistics

*NEED – National Energy Efficiency Data-Framework

Sources of input data - considerations

- Who has what now? In future?
- How comprehensive?
- Cost and complexity – number of parties involved
- Longer term changes expected – legal change needed?
- Competence and consumer trust

Sources of input data – short term

Who has what now?

- Data Access and Privacy Framework:
 - **Suppliers** can collect monthly data without consent. But, consent needed for more granular data.
 - **Networks** can collect half-hourly data but must aggregate or anonymise where possible with privacy plans agreed by Ofgem:
 - Electricity DNOs in process of getting approval
 - No gas DNs pursuing this at present
- Settlement / central bodies - limited data currently

Sources of data – longer term uncertainties

- **Supplier option** - increasingly complex eg faster-switching, multiple suppliers per household?
- **DNOs** - will have approved privacy plans – may take different approaches
- **Half-hourly settlement** – may create new opportunities (e.g Ofgem recent conclusion for suppliers to access daily-data for settlement purposes)
- **Gas data??**
- **Central bodies** - looking to build on existing data and skills

Proposed way forward (subject to case being made)

Shorter term – suppliers

- ONS or BEIS as trusted processor - using existing powers
- Collecting data from suppliers. As now – but more granular e.g. monthly at first.

Longer term – other options ?

- Wider range of options
- Dependent on direction taken on wider reforms (eg settlement, sources of gas data)
- Could need legislative / licence change
- Beware closing doors

Session 1 Panel & Discussion

Reflections on public interest use-cases & possible routes to data

PIAG members :

MHCLG - James Denman

Greater London Authority - Daniel Barrett

UCL Smart Energy Research Lab - Eoghan Mckenna

ONS - Simon Duddy

Elexon – Justin Andrews

Session 2

PIAG – conclusions and recommendations

Proposed principles for Policy-Makers - PIAG Conclusions – 1

Access to smart-meter data for public-policy purposes is essential to avoid policy makers ‘flying blind’ into the energy transition

- Overseeing an increasingly data-driven energy system
- Responding to concerns about customers left behind
- Evaluation of options for the major challenge of heat decarbonisation

Proposed Principles for Policy-Makers - PIAG Conclusions – 2

Government should draw on existing arrangements used in other sectors to enable access to smart meter data for a public-interest purpose while protecting privacy

- This focus on secure-handling of the data means that there does not need to be a trade-off between respecting and protecting consumer privacy and using data to serve the public interest;
- Opportunity to build on existing arrangements now to provide improved data.

Proposed Principles for Policy-Makers - PIAG Conclusions – 3

Decisions on the types of uses of smart meter data that are in the public interest should sit with government or the regulator and should not rely on securing the consent of individual consumers

- Existing privacy frameworks see government determining where public interest lies;
- The public interest benefits of smart meter data are dependent on having a comprehensive picture;
- Consumers at large should stand to benefit from the use of smart meter data for public interest purposes;
- It's the job of government (or the regulator) to identify where such opportunities arise – informed by evidence;
- Engaging the public in this debate may be difficult but is vital.

PIAG Recommendations – Framework

- **Developing the case for access to the data**
- **Immediate** : making best use of existing data sources
- **Short-to-medium term** : taking forward improved data access
- **Long-term** : keeping options open
- **Wider smart meter framework**

PIAG Recommendations – some headlines

- **BEIS** – gas data needed for future of heat? ONS v BEIS role and early engagement with Energy UK?
- **Ofgem** – consider what data needed for effective oversight of the sector? avoid closing doors as policy evolves
- **Citizens Advice** – evidence on consumer attitudes to public interest use cases? Pursue data dashboard to provide transparency
- **DNOs** – understanding city-scale planning requirements? Standardised formats? Other data?
- **Central bodies** - Smart DCC, Elexon, others – Current data held? Future roles?

Session 2 Panel & Discussion

Reflections on PIAG conclusions & recommendations

PIAG members :

BEIS – Andy Charlesworth

Ofgem – Steven Steer

Citizens Advice – Colin Griffiths

Smart DCC – Fabienne Dischamps

Northern Powergrid – Issy Middleton

Session 3 Panel

Forward Look, Next Steps

& PIAG Phase 2

Chair – Sharon Darcy. Sustainability First
Energy Systems Catapult – Simon Pearson
Sustainability First - Maxine Frerk
CSE – Simon Roberts

PIAG Phase 2

PIAG has filled an important vacuum. Phase 2 will focus on evidencing the public-interest use-cases - and help 'make the case' in BEIS & Ofgem:

- **Keep to the fore the topic of access to smart meter data for a public interest purpose.** Continue to inform & shape the public debate with key actors – incl. w BEIS, Ofgem, Citizens Advice and other key stakeholders.
- **Disseminate conclusions & recommendations made by PIAG in Phase 1. Track progress and follow-through** among different actors.
- Provide **continued thought-leadership** through an **independent convening** role.
- Through PIAG workshops, continue to provide an active **information exchange**.

PIAG Phase 2

And in particular, develop a stronger evidence-base - to input to BEIS, Ofgem and others – through development of **in-depth use-cases**.

These will be designed to demonstrate the ‘additionality’ which access to granular smart meter data could deliver in terms of different public-interest uses. Including for :

- BEIS & other government departments
- Ofgem & other regulatory bodies
- Arms-length bodies e.g. CCC, NIC & Energy Systems Catapult
- Devolved, regional and local government
- Potential applications of smart-meter data for heat-policy

Reflections on the day & closing remarks

Sharon Darcy. Director. Sustainability First

lets continue discussion
over a drink !

Smart Meter Energy Data: Public Interest Advisory Group (PIAG)

<https://www.smartenergydatapiag.org.uk/>

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