Household Smart Meter Energy Data : exploring the public interest agenda

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Sustainability First is a small environment think tank and charity – with a long-standing interest in smart and the demand-side. Our focus is on consumers, regulation and policy.

My question today is on how smart meter energy data could better support the public interest agenda.

In public policy terms, this is a neglected topic.

The headline is : 29 million electricity and 21 million gas smart meters in every home and small business in five years.

For energy companies, the £11 billion roll-out offers operational benefits. For customers : accurate bills - and better feedback. Much *current* effort rightly focuses on roll-out logistics ; customer safeguards ; data protection. I will park all these major topics here.

Last year - together with CSE in Bristol - & TEDDINET – Sustainability First asked Simon Elam at UCL, and Exeter's very own Jess Britton, to look at smart meter data and the public interest agenda. Their excellent reports are on our website – www.sustainabilityfirst.org.uk

Most current thinking about smart data is *rightly* around *commercial* innovation – by energy companies or others – including app developers.

But, we may miss an opportunity. Be this at government, city or community level. In every home - accurate time-related energy-use data will be recorded at the meter. Half-hourly for electricity. Daily for gas. (And, potentially, 10-second for electricity and half-hourly for gas).

And, at some extra cost, extra sensors around the home could also bring added insight on temperature, humidity and so forth.

Smart meter data could clearly serve a 'public interest' agenda in many ways. But, I would argue that nobody in government – or indeed elsewhere – is really 'on the case'.

Or, at least, not yet.

So, what might an improved evidence base *deliver* for different actors ?

This is not hard to imagine.

- On all matters 'energy' – better targeted advice.
- **For government, the regulator, others** : improved energy models and demand-side inputs ; better informed policy ; better targeted interventions ; better evaluation of

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> *outcomes* : for the fuel poor, for efficiency, heat, own-generation; carbon ; a better grasp of the **distributional impacts** of policy.
> - **For energy actors** : better-targeted investment - for smart grid, for smart energy ; ability to develop a better view of community needs.
> - **For cities** : better evidence - for local energy schemes ; or to plan & develop infrastructure – for EVs ; for heat ; for homes.
> - **Better-targeted local services** : for the elderly, the vulnerable, the fuel-poor - and, **better-informed partnerships and collaborations** - with social landlords, the health agencies.
> - **Universities and the not-for-profit sector** could no doubt also put the new data to good use.

And, *very many more* applications for the public policy realm - not yet even imagined.

Just to stress. We already have official energy consumption data and statistics – including local-level analysis. *But,* this is pretty basic.

For households, this is currently drawn from anonymised annual customer data : so, the total kWh - or gas-units - used by each household over an entire year. This data is already widely used to inform policy. It can also be analysed by season / by region / at local-authority level. Post-code, even.

Current data can also link to other data sets. For example, on the housing stock ; demographic or deprivation data.

Also, some trials have produced some half-hourly data, and this can also be put to wider use.

But, just to stress. Right now, there may be some nascent plans – BUT - so far no decisions have been made on whether - or how - to obtain a robust national data-set to capture historic half-hourly energy-use – which can be put to use for general 'public policy' analysis.

Smart meter data offers the chance to change this. So what might stand in the way ?

First, nobody is very actively focused on the *opportunity***.**

Despite obvious interest, nobody seems to 'own' the *whole* question.

Second. And important. Success of the smart meter roll-out depends – *critically* - on customer trust.

For this reason, government has rightly devoted much effort to deciding who can access smart meter data - and how.

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There is a clear rule-set : the **Data Access and Privacy Framework (2012).** This rightly puts the consumer in control of their data. Customers have sole rights to their own detailed consumption data.

But, with consumer consent, others can access smart meter data.

There are clear rules on customer 'opt-out' and 'opt-in'. For example, energy suppliers are entitled to one-month aggregate data for billing. But, if a supplier wants to access half-hourly data stored on the meter – then their customer must give an explicit 'opt-in' consent.

Importantly, these opt-in consent arrangements also apply to other actors : so, to central government, cities, local authorities, universities, social agencies – as well as the IT & app-developer community.

So, new half-hourly energy-use data *could* become available to improve our public-policy evidence-base. But, right now, we don't know how far the data rules on individual 'opt-in' may inhibit data access *at scale*.

Also, organisations who wish to 'play' may need to be relatively well-resourced : first to meet the 'bar' - in part for cyber security reasons - to sign-up as 'trusted' data-user with the Data Communications Company. And, second, to manage the process of obtaining individual customer consents. For those who do not already have a direct interface with energy-customers - this might prove quite a big step.

Let me end by saying that I don't feel that these challenges are insuperable.

We need to weigh the trade-offs : between customer 'buy-in' for the smart meter roll-out – *especially* on getting it *'right'* for data access and privacy – against the benefits for public policy of half-hourly smart energy data. The opportunity is there. This is a conversation which needs to begin.

So, Sustainability First, with CSE, is in the *foothills* of attempting to set up a Public Interest Advisory Group to tackle some of these very fundamental questions.

It would be a pity to forgo the many potential wider 'public interest' benefits which smart meter data could offer.

Therefore, my question for today is :

How best to realise the public interest benefits of smart meter energy data, given the over-arching need to safeguard personal privacy ?

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