Uses of data from smart meters

Jason Brogden – SRSM Project Manager

14th Dec 2010 - Ofgem smart metering data privacy meeting – Data uses session 2

ENERGY RETAIL Association

Introduction

- Where will consumption data go and why?
- What requirements does that drive?
- How do we deliver the IA?
- How do we ensure appropriate use of required data?
- What are the next steps to take this forward?

ENERGY RETAIL Association

Where will consumption data go…and why?

Step 1 – From the meter, via the DCC to the Supplier

01234

98765

01234

98765

01234

98765

Gas Supplier

DCC

Electricity Supplier

ENERGY RETAIL Association

Where will consumption data go…and why?

Step 2 – Supplier will use the consumption data for

Gas Supplier

01234

98765

Electricity Supplier

BILLING
- According to tariff
- Weekly
- Monthly
- Quarterly
- Annually

TAILORED ADVICE
- Energy efficiency
- Tariff
- Demand reduction
- Debt management

ENGAGEMENT
- Tariff/product innovation
- Energy efficiency
- Reduce energy costs
- Vulnerable customers

DEMAND RESPONSE
- Develop ToU
- Peak load shift
- Encourage behavioural change

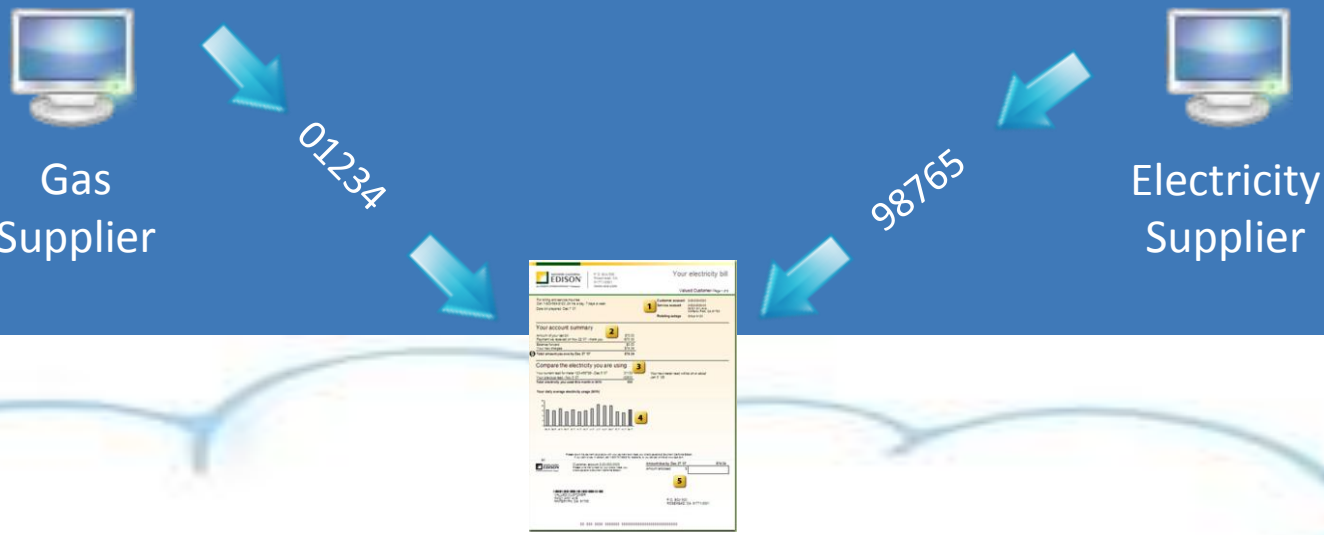
DEMAND FORECASTING
- Accurate forward picture
- Reduce imbalanced positions
- Efficient forecasting based on real data

SETTLEMENT
- Pay for energy used
- Industry transaction charges
- Efficient settlement based on real data

BACK OFFICE
- Theft detection
- Operational efficiencies
- Lower the cost to serve

Where will consumption data go…and why?

Step 3 – BILLING



BILLING

- Customers sign up to tariffs and payment frequency and method
- **Suppliers will access & use readings aligned with products** (e.g. monthly reads for monthly billing, time period advances for ToU tariffs, readings at dates of tariff switches)
- These products may require a large volume of more granular data to support them
- Expect customer consent as part of Ts & Cs for the product

Where will consumption data go…and why?

Step 4 – TAILORED ADVICE

TAILORED ADVICE

•Advisors have to understand consumer's consumption to provide meaningful advice

•**Need within-day consumption data for meaningful advice**

•(e.g. water and space heating times, true base-load to assess v. peers)

•In order to deliver the benefits to consumers, advice is key, particularly on energy efficiency measures

•Energy efficiency, demand reduction, demand-shifting

Where will consumption data go…and why?

Step 5 – ENGAGEMENT

ENGAGEMENT

- **Suppliers need to know granular data to identify what products are best for individual customers, saving them money**
- This happens now in other industries (e.g. BT notifying best Option: 1, 2 or 3) – they can do that because they have the granular data for other purposes (billing in the BT example)
- **Suppliers need to know granular data for the population or customer segments to innovate new products and offer best products to save customers money**
- This may be aggregated to deliver the purpose, but you need raw data first
- How can we encourage innovation and customer choice for the majority of customers without this? Other industries can do this because they have the data for billing
- Facilitate the targeting of appropriate advice and products to vulnerable customers

Where will consumption data go…and why?

Step 6 – DEMAND RESPONSE

DEMAND RESPONSE

•Developing appropriate customer segment specific Time of Use Tariffs

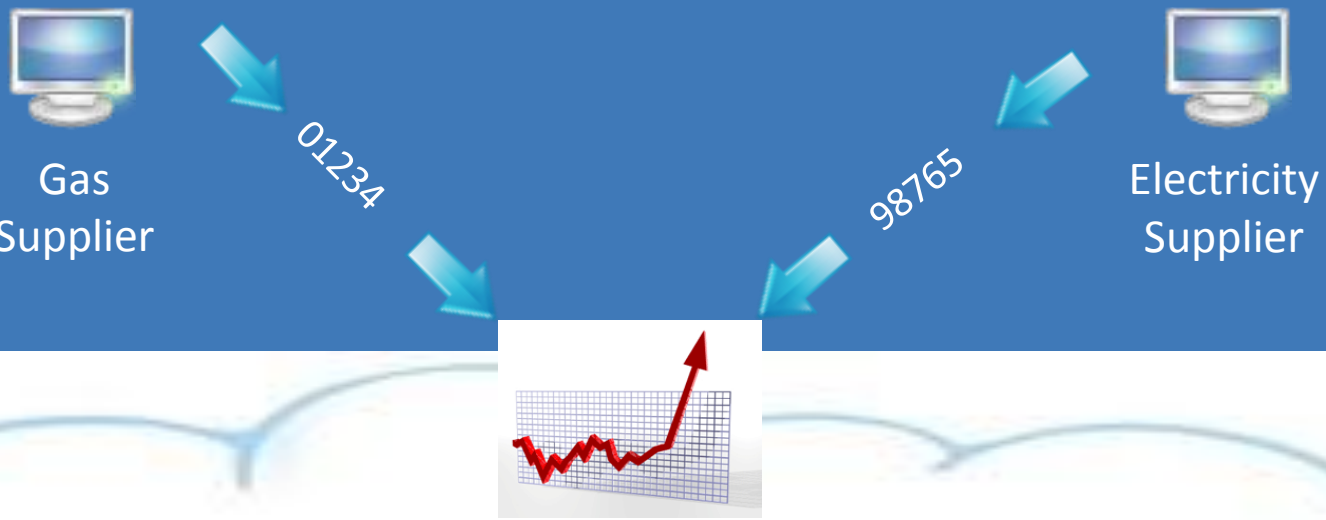
•Encourage demand response for critical peaks shifting usage from peak times to lessen the load on national generation plants and ensuring security of supply

•Electrification of heating and transport leading towards low carbon economy

•The ability to pass customer savings onto individual households to encourage right behaviours

Where will consumption data go…and why?

Step 7 – DEMAND FORECASTING



DEMAND FORECASTING

•Current processes are based on very good guess work – years of practice

•But, it's still a guess

•Accurate data to improve the ability to forecast more efficiently – aggregated might be ok

•More efficient forecasting will reduce imbalance – reduce the need to purchase energy within day - more often than not at expensive rates

•Need to agree the level of data required, but improved forecasting reduces supplier costs, therefore saves money for customers in tariffs

•Granular data to deliver reduced costs to customers must be a good thing

Where will consumption data go…and why?

Step 8– SETTLEMENT

SETTLEMENT

•Settlement is currently based on large groups of sites based on type, size and location

•As with Demand Forecasting, electricity Settlement uses estimated annual consumption, which is subsequently reconciled with actual data

•**More frequent meter readings improves electricity settlement accuracy and should improve risk margins, reducing costs for customers.**

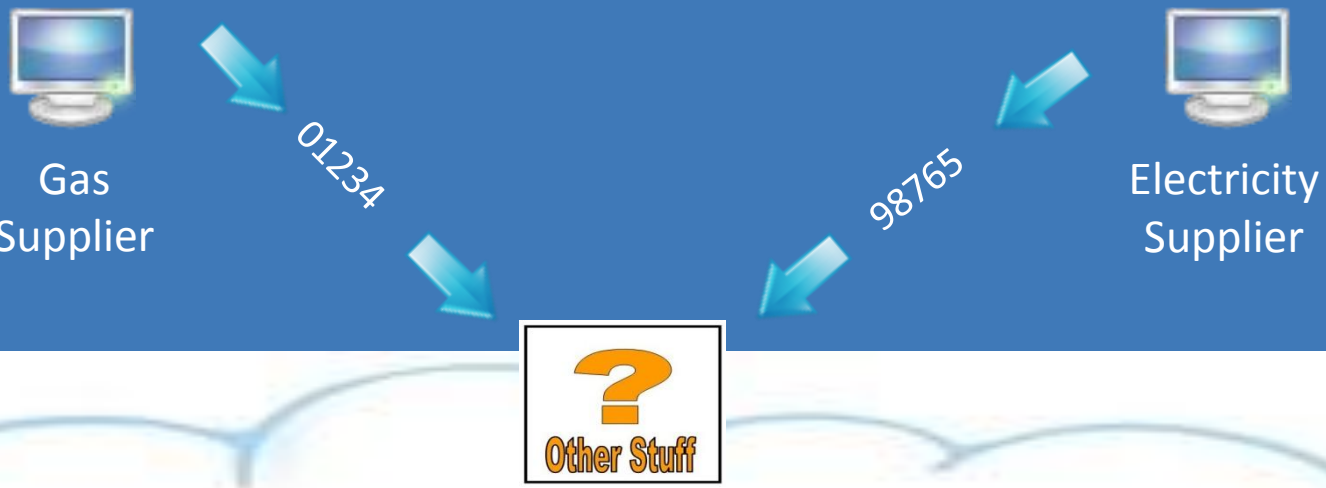
•Gas settlement does not allow for variation within the year –AQ stays the same even if your usage pattern changes

•Granular, accurate data will facilitate potential future gas settlement reform

•Accurate data will improve the Settlement process – might be aggregated at some level

Where will consumption data go…and why?

Step 8– BACK OFFICE PROCESSES



BACK OFFICE PROCESSES

•Costs of theft are currently spread across all consumers as ‘system losses’

•Detection of theft requires frequent site specific meter readings – at least daily, preferably within day

•Improving efficiency in all back office processes will reduce the cost to serve

•Lower cost to serve = lower cost of energy = lower prices for customers

Where else will data go?

Agents
- MAP
- MOP
- DC/DA
- etc

ELEXON

Elexon
- Wholesale charging
- Balancing/Settlement

Agents
- MAP
- MAM
- DC
- etc

SPAA

SPAA
- Supply point registration?

Electricity Supplier

Gas Supplier

Network Operator
- Network planning
- Network charging
- MPAS?

xoserve

Xoserve
- Balancing/settlement
- Charging

Gas Transporter
- Network planning

ENERGY RETAIL Association

To summarise data requirements

- Meter readings to allow accurate billing
- Granular data to improve forecasting and therefore reduce costs to customers
- More frequent meter readings improve settlement accuracy, reducing risk and therefore reducing cost to customers
- Detection of theft requires frequent site specific meter readings – at least daily, preferably within day
- Need within-day consumption data for meaningful advice to customers to save energy and money
- Need within-day consumption data to offer best products to customers to save money
- Generally, need to agree appropriate uses:
  - the level of granularity
  - How granular data is stored and then used

ENERGY RETAIL Association

Don’t forget we must deliver the IA

		IA Benefits	Data Needed?
Engage with consumers for energy efficiency	•Better quality advice •Via IHD’s, bills etc •Comparisons •Microgeneration	£4Bn – EE £36m - Microgen	
Developing new products and services	•Time of Use tariffs •Energy Services/Audits •Tailored to consumers needs	£390m ToU £736m Load Shifting	
Better theft management	•Identify unusual consumption •Investigate fairly •Reduce c£500m in costs	£113m – Theft + H& S Benefits	
Improved understanding of energy consumption	•Better forecasting •Better debt management •Operational improvements	£1.053Bn - Debt Mngmt	

Suppliers need access to granular consumption information to deliver

key benefits, provide customer choice and encourage customer engagement

Appropriate Use of Detailed Data

- Suppliers need granular data to deliver savings to customers
- The key is to ensure that data is used in the appropriate way
- As you can see from the above, not all data is required for all purposes
- Do we need a privacy charter to ensure only appropriate use?
- In the same way we want to make data available to customers to provide to 3rd parties to offer advice and engagement, shouldn't we facilitate this to be provided by Suppliers to customers if it can save them money?
- Engagement works if relevant to an individual – need individual's data (respecting marketing consent preference)

ENERGY RETAIL Association

Using meter readings in a way that gives us all comfort…

- Will meter reads be transmitted securely? ✓
- Will meter reads be held securely? ✓
- Will meter reads/consumption data be used by suppliers for appropriate purposes? ✓
- Will consumers' marketing preferences be honoured despite more data? ✓
- More work needed to define appropriate uses ✓

So how do we move forward?

ENERGY RETAIL Association

Moving forward……

- Define appropriate uses
  - Not necessarily the same as “Regulated Duties”
  - Industry processes - what we do now isn’t necessarily right – lots of processes are very inefficient
  - Appropriate restrictions on use of protected data
  - Needs to be a balance between site specific frequent data and aggregated/anonymised data
  - Remember that product & tariff innovation to deliver the right products/services to customers is key to deliver consumer engagement, therefore the CBA/IA
  - Allow data to deliver efficiencies that help drive down costs – not increase them

ENERGY RETAIL Association

Moving forward……

- A Privacy Charter to set out
  - Who will use the consumption data;
  - How and why consumption data will be used;
  - How that data will be protected;
  - How long data will be kept for;
  - How data will be kept accurate – and what happens when it isn't;
  - How consumers can access their information; and
  - What marketing preferences are available to consumers and how these are informed

ENERGY RETAIL Association

What this delivers…

- Delivers transparency to all consumers and is in addition to Terms & Conditions
  - Give a copy of the Privacy Charter to every consumer (either pre or during the installation visit)
- Delivers protections over and above those set out in DPA 1998
  - Satisfies concerns that DPA1998 is not fit for purpose
- Delivers a flexible solution
  - Charter can be flexible to change to reflect learnings, future innovation and future legislative changes

ENERGY RETAIL Association

Next Steps

- Set up a sub-group to develop ‘appropriate uses’ with similar constituency to existing SMDG/DCG which are working well for development of products
- Must seek to define (not agree..we’re in the consultation period) principles
- Report back in January – feed into Govt response in February

ENERGY RETAIL Association