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Smart Metering Implementation Programme – Roll-Out Team
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AlertMe response to Smart Metering Implementation Programme

About AlertMe

AlertMe provides easy to use and affordable Home Energy Management for consumers that allows them to see their energy in real time and historically. It identifies where they are wasting energy and helps them to make changes to save in the region of 15-25% on energy use and bills and, as a consequence reduce their carbon emissions. AlertMe is the only real time, in-home, online and Smartphone-enabled service of this type in Europe. We provide our services both directly to consumers and also through partners.

Unlike other services that provide visibility alone, we also give consumers control and automation. Our platform is designed to incorporate heating control and automation as well as the future integration and automation of smart appliances, domestic microgeneration (Solar PV) and Electric Vehicle charging. AlertMe is designed to work both independently and in communication with Smart Meters and we have already demonstrated performance in tandem with dual electricity and gas Smart Meters as part of a TSB funded trial in 2011.

AlertMe also provides insight and actionable information with tools and tips that empower consumers to take control and become more efficient, helping them to achieve sustainable change in the way they consume energy. In this way we believe that AlertMe can play a significant part in helping the Government to achieve its objectives in CO_2 emissions reduction and energy sustainability.

Overview

AlertMe's response to this consultation covers areas relating to :

- **the consumer's access to their energy consumption information via the Smart Meter Home Area Network (SMHAN) in (near) real-time**
- **How this information can be presented to the consumer in a convenient and informative way**
- **Optimising consumer choice and engagement**
- **Providing a platform for ongoing incremental consumer benefit**

We believe that consumer engagement and buy-in are vital for a successful Smart Meter roll out and future Smart Grid strategies. Providing an opportunity for all consumers to access their own Smart Meter data so

they can view and manage their home energy use and cost, is essential to enable this buy-in. We therefore fully support the principle behind the mandate of an IHD as the minimum specification primary offer for consumer visibility. However this is also an opportunity to look beyond simple visibility and establish a platform for ongoing incremental consumer benefit in terms of cost reduction, comfort, convenience and CO_2 reduction. **For this reason we strongly propose that utilities have the opportunity, should they wish, to give their customers a choice in how they access and view their in-home energy data as part of the Smart Meter Equipment rollout.**

Consumer Choice

We believe that a utility installing the Smart Meter Equipment, should be allowed, if they choose, to offer alternatives to the IHD as long as those alternatives provide equal or better features/insight for the consumer and that the choice is presented to the consumer in a fair and balanced way. One such alternative is a home gateway or bridge device that allows the consumer to view their energy information on a computer or Smartphone in the home or anywhere, anytime. Giving consumers a choice of accessing their real-time energy information on an IHD, via a computer or on their Smartphone can only maximise engagement and provide a better consumer experience.

Access to information using such a gateway or bridge is already a high priority part of the proposed SMHAN communications architecture. Several companies can now provide a home gateway, like the AlertMe hub, for a similar cost to an IHD and therefore it makes sense to give the consumer this choice prior to the installation of the Smart Meter Equipment when they could get it free. Given this choice we believe a significant number of homes would choose a gateway rather than an IHD.

This approach to consumer choice is supported by the significant penetration of broadband in UK homes (over 75%) and the rapidly increasing adoption of Smartphones (half of all new and over 30% of current mobiles are now 'smart').

Data on consumer choice of gateway or IHD
AlertMe commissioned wide ranging independent research (see Appendix 1) in the area of Home Energy Management with over 1200 consumers and asked whether they would prefer a free IHD or free access to online/Smartphone information. The result was that 8% said they wanted neither, 40% chose the IHD, 40% preferred to see their data online via a computer or Smartphone and 12% said 'depends'.

A platform for improved engagement and incremental consumer benefit
While Smart Meters will provide a platform for the development of a Smart Grid and a range of Smart Grid enabled initiatives from the supply side, providing a gateway or bridge in the home offers the consumer a similar platform for ongoing engagement, incremental benefits and the integration of future energy saving applications such as remote online heating control and automation, Solar PV monitoring, smart appliance control and Electric Vehicle charging. Providing an online ecosystem for all home energy applications will in future allow the consumer to optimise and ultimately automate their home energy use for maximum efficiency. Providing consumers with an IHD simply offers visibility and a small percentage return in terms of energy savings and CO_2 emissions reduction.

AlertMe participated in a TSB funded trial with British Gas **Monitor, Manage Control** (project no. 130353) which demonstrated not only the ability for the AlertMe hub to operate securely in a dual Smart Meter scenario it also demonstrated significantly increased engagement by consumers over the web and via Smartphone when compared to an IHD. Consumers with Smartphones typically logged in 15 times a week compared to 2.2 times on the display tablet. More details of this trial can be obtained from British Gas.

Consumer access to SMHAN
While access to the SMHAN using an authorised device must be authenticated and secure, it must also be simple for the consumer. One example of similar domestic accessibility to a secure wireless communications network would be the ability to add new devices (laptop, Smartphone, games console) to an encrypted home wireless broadband service.

Access to the SMHAN using a bridge or gateway gives visibility in (near) real-time in the same way as the IHD does and receives the same data but puts the information online. However taking historic 30 minute data

gathered from the meter by the utility via the WAN and displaying it online is not a substitute for SMHAN data as it does not achieve the objective of the mandate to give (near) real time visibility of data gathered in the home. (See diagram Appendix 2.)

Response to Consultation Questions

Q8/9. Interoperability is vital not only for continued consumer choice and the ability to switch providers, but also in encouraging competition and new innovative home energy information services. Without interoperability the consumer's gain is limited as their journey will begin and end with the IHD rather than having the opportunity to go from visibility alone to customer empowerment through control and automation of a wide range of home energy applications.

Q10. Dispute resolution is highly valuable in ensuring timely practical solutions. One excellent example of this in telecoms was the role of the Office of The Telecoms Adjudicator (OTA) in parallel with the implementation of Ofcom's Strategic Review of the Telecommunications Market. While the Strategic Review led to the structural separation of Openreach from BT and access in principle to the Openreach network for competitors, it was the OTA monthly dispute resolution process that drove the access to the Local Loop for competitors in a timely and practical way. In the same way interoperability enabling the consumer to switch or have access to the SMHAN using a gateway could benefit from a dispute resolution process if it proves difficult or costly in practice to implement.

Q17. This is primarily a question for the utility rolling out the Smart Meter Equipment. However there needs to be clarification if an alternative to the IHD can be offered as part of the Smart Meter Equipment to the consumer.

Q18/19. We do not foresee any issues if a consumer changes their supplier for the provision of IHDs as the IHD is paired to the meter and as long as the supplier of the IHD retains its obligation to support it for the proposed time (12 months).

Q36.We believe that standards will evolve, but if this happens quickly then it will provide a level of certainty for utilities to roll out efficiently with confidence and offer the consumer a guarantee of interoperability. Therefore further industry collaborations rather than mandate might be sufficient to achieve this.

Q40. Yes, we agree that ZigBee SEP 1.x is a sensible applications layer for communications within the customer premises. With regard to economic, technical and consumer evidence - Many hundreds of thousands of AlertMe SmartEnergy online and in-home display kits have been shipped directly and through partners to consumers in the UK. These kits communicate wirelessly using a clip-on electricity meter reader (clamp) that uses ZigBee at 2.4GHz. This volume has demonstrated that this is both economically viable and practical on a large scale and that consumers have responded very favourably to this solution.

Q46. We strongly agree with the proposed approach Option A, to enable the consumer to access their data over their Home Area Network using a bridging device. Such bridging devices (like the AlertMe hub) will increasingly be available in consumer homes and Option A means that the bridging device can use the same communications hardware as the In-Home Display, which by definition will be high-volume and therefore low-cost.

We are pleased that the Government recognises the need to develop an appropriately-secure but accessible connection process, and would welcome the opportunity to share our experiences of making the process consumer-friendly.

Q50. We have several observations based on our extensive engagement with consumer attitudes to home energy visibility.

Real-time visibility of 'power now', which changes instantaneously in response to events in the home, is effective in engaging consumers because it ties cause to the effect. Historically therefore, IHDs have devoted most of their screen real-estate to showing live 'power now', however very few consumers understand Watts (instantaneous power) or kWh (unit of consumption).

Consumers do understand £'s and pence and some displays offer the opportunity to translate Power into £/day. The addition of a cumulative cost which can be mapped to cost prediction for the month or quarter would complete the picture for the consumer enabling them to see power use (cause and effect), but also understand the cost and allow them to budget.

We do agree that the ambient display should show live power consumption, however, we also believe that this is a very blunt instrument and might not have the desired effect of reducing use or cost. Ambient feedback is only of primary benefit when the user can't see, read or understand the 'power now' or cost. This makes Ambient important to a proportion of society, but provides little insight in terms of reducing use or budgeting. Additionally ambient display using colour should be combined with a rising bar or 'speedometer' (see the AlertMe Swingometer).

In time-of-use tariff scenarios, an ambient display of 'power now' is less useful than understanding the real-time energy cost, e.g. red when prices are high. It's also worth pointing out that some of our customers find ambient light distracting and choose to turn off the ambient light feature of our hub.

Q 51/52. We believe that the display of account balance on the IHD is necessary for prepay customers. If this functionality is available to prepay customers it may well be made available easily to credit customers but would not be essential.

Q59. The data required for supplying energy and billing the customer for it is different from the data required for energy information services in the home. We believe it is important that a consumer should be able to take their energy information services from a provider of their choice and not necessarily tied to their energy supply. Interoperability and inbuilt security in the end to end system needs to allow for this.

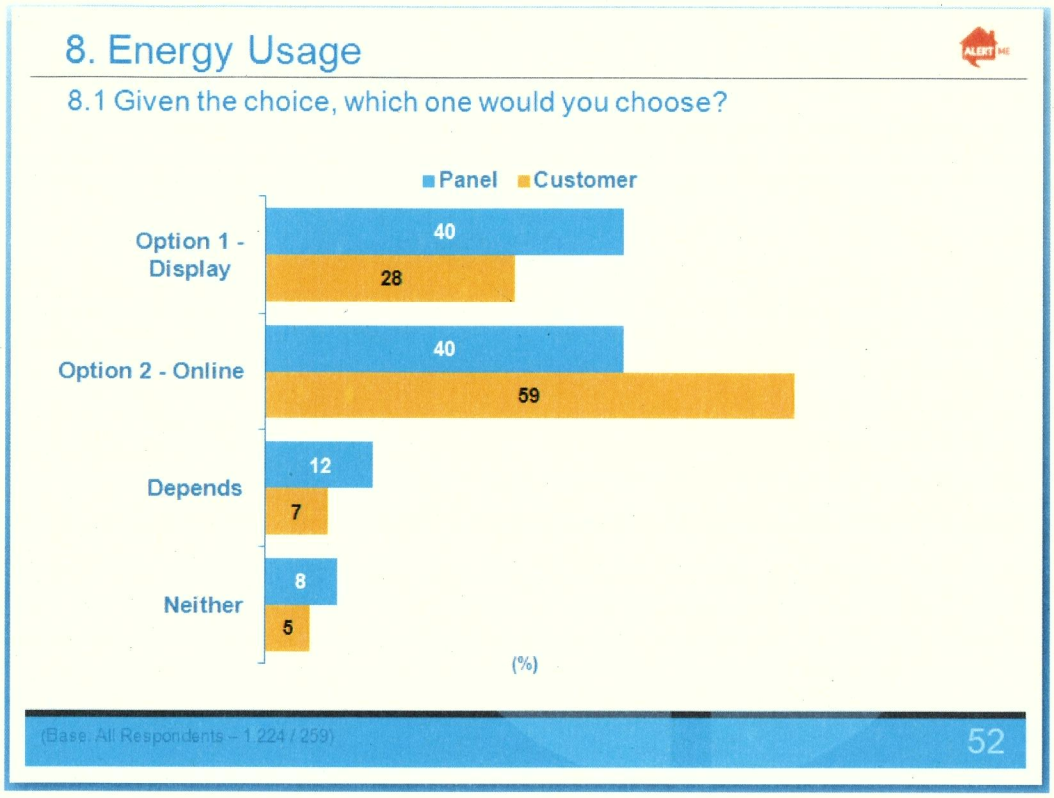
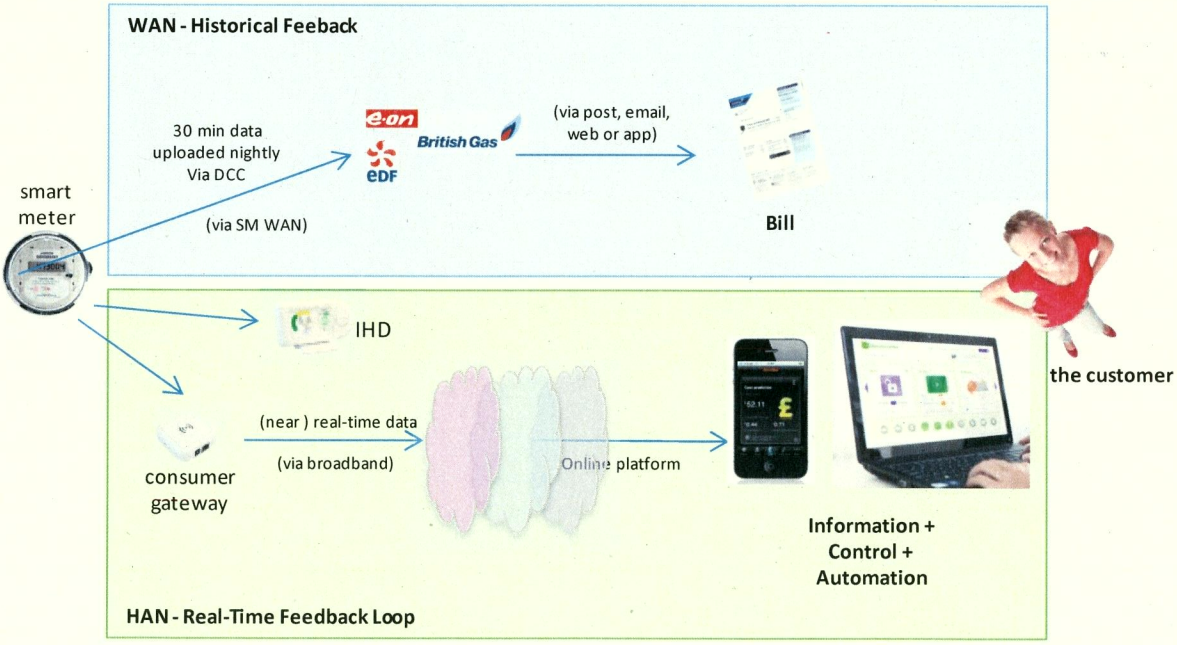
Appendix 1 – Critical Research – 1224 consumer panel + 259 AlertMe customers

OPTION 1: A Free Energy Display.

Your energy supplier gives you a colour display which you can put somewhere convenient in your home, such as on your kitchen worktop. It shows at a glance how much electricity you're consuming right now, and gives you a running total of spend so far this week or month.

OPTION 2: Free Online Energy access.

Your electricity supplier gives you a service which lets you check your household energy use any time you want on the internet, using your own computer, or your computer at work, or your mobile phone or tablet – all for free. It helps you budget by predicting your bill, and gives you specific advice on how you can save energy, for example by showing you which appliances are using the most energy, and how to use them more efficiently. You get more detailed information than Option 1, but you do need to log on to your computer or use an application on your Smartphone to access the information.



Appendix 2 - The Consumer HAN Data Model v WAN