



## **Onzo Ltd. response to the DECC Consultation on the Smart Metering Programme:**

### **A call for evidence on privacy and data access (August 2011)**

**Reference Number URN 11 D/838.**

#### **Introduction**

Onzo is a leading UK manufacturer and developer of In Home Displays and Energy Analytics. We are members of the ZigBee Alliance and work closely with meter manufacturers and UK industry groups to help set standard for smart metering. We have currently supplied 100,000 internet connected displays in the UK market and collected and analysed over 500 billion data points. These have been used to help educate customers about energy usage and provide the basis for engaging them in continuing improvement in their behaviour over an extended period. It has also enabled us to construct a unique database of appliance use and consumer behaviour, using both our Smart Energy Kits and ZigBee displays.

Based on that experience, which spans both consumer usage and utility insight, Onzo offers the following responses.

#### **Response to Consultation**

*Q1. Please submit any further evidence, such as surveys or consumer research, regarding privacy issues and smart metering. In particular is there evidence available about the effects of the availability and aggregation levels of more granular data (for example daily)?*

Onzo collects data every second from its UK deployment of Smart In Home Displays. Customers opt in to send this data back for analysis, and can access the results via a secure web interface. The attached report (Onzo Efficacy Report 1v0 DRAFT) gives details of engagement and energy savings. Over 40% of all customers have accessed this more detailed information available to them through connecting their IHD to the web and we see a long term retention rate of over 75% of these, who also continue to improve their energy usage, which is significantly higher than with conventional IHDs. We would suggest that access to higher resolution data is a key ingredient to long term engagement.

*Q2. To what extent would different rules for access to data between suppliers and third parties be expected to impact on the development of an energy services market (in*

*terms of product and tariff innovation and / or entry to the energy market by third parties)? What are the particular data uses to which these concerns apply?*

There is a great risk that if data is limited, then the only benefit from the whole smart meter program will be the end of the estimated bill. Changing customer behaviour needs greater flexibility of feedback if it is to be compelling, and this in turn mandates higher resolution data. We see this as being particularly important for disaggregation of data which is necessary for itemised billing and appliance maintenance.

Q3. No response.

*Q4. What types of energy services and energy advice could be provided by the market (by suppliers and / or ESCOs / potential new entrants) that require access to specific levels of data?*

*What level of data granularity (frequency, time-lag) are needed to provide such services and what is the potential impact of these services in terms of percentage energy savings?*

*Please provide empirical examples and explain the basis of any assumptions and distinguish between gas and electricity.*

For services requiring knowledge of individual appliance usage, electric power data is typically required at intervals of one second. This can be compressed, limiting the daily data transfer to around 80kB. Such information allows new services in the form of assisted living monitoring and appliance maintenance.

Q5 & Q6. No response.

*Q7. What level of take-up of time-of-use tariffs could be expected under different scenarios for access to data? What information is needed to design time of use tariffs? In particular would sample or anonymised data be sufficient?*

This depends on what you want to achieve. If you are designing very blunt ToU tariffs which simply attempt to price users out of the market you need very little data. At the other extreme, if you want to identify users who can move their usage and offer them incentives and encouragement to move, you need a good understanding of the appliances they have and when they use them. Onzo has already seen that providing detailed feedback about usage can result in significant peak shifts without any financial incentives or penalties.

On the basis of this we would recommend that there is a need for a level of granular data, although this only needs to be available from a limited, representative sample of the population. It can be anonymised for the purpose of designing tariffs. However, users would benefit from a more detailed understanding of how any ToU tariff would impinge on their particular pattern of appliance use.

*Q8. Do you agree that individual half-hourly data is not currently required for suppliers to meet their obligations in relation to settlement? Over what timescale are any changes to settlement likely to take place and what might the implications be in terms of data requirements?*

Onzo agrees with this statement.

Q9 – Q11. No response

*Q12. How could smart metering data be used to identify and protect vulnerable consumers? Should such activity be considered a regulated duty and are any licence changes needed to create particular duties on suppliers in this area?*

Although not envisaged within the current program, there is evidence that data which identifies individual appliance use (which can be inferred by disaggregation algorithms on a single high-resolution electricity feed), can be of use if Assisted Living monitoring by detecting changes in daily patterns of use. This can be a predictor of UTIs and subsequent falls.

Q13 – Q16. No response.

*Q17. What evidence is there of likely take-up rates that could be achieved through different approaches to consumer choice?*

Onzo's experience is that providing a compelling form of feedback, in this case via the web, can achieve ongoing engagement rates in excess of 40%.

*Q18. What current and future technical options exist for energy consumption data minimisation / privacy enhancing technologies? How might aggregated or anonymised data be provided in practice? Would this imply additional services to be provided by DCC?*

Even at high resolution, compression techniques can provide significant reductions in data rate, without compromising the value of the data. Onzo has developed highly efficient compression techniques, which have been offered to the UK deployment on a no cost license basis.

Q19 - Q20. No response.

*Q21. What practical options for authentication would provide the right balance between allowing easy access to consumer data in the home while providing the necessary privacy protection? Are there any other issues or options that the programme should be considering in developing the approach in this area?*

An alternative option which does not seem to have been considered is to use the IHD as a store for historic data, which can then be transferred to a consumer's PC for analysis either locally, or via an external service. This allows external access to the IHD's historic store without allowing any access to the HAN.

*Q22. Are there other issues that need to be considered to make using the HAN a viable route for access to data in the home, from either a process or consumer perspective?*

The biggest consideration is in making it simple for the user to connect any device that they purchase. The current experience of enabling a secure connection to a ZigBee network is not a consumer focused one – instead it typically needs installation tools and an ability to set the HAN up for joining from the DCC. Unless an alternative solution is found, either by storing data on an IHD, or bridging to another network, it is unlikely that more than a few consumers will ever connect.

The only other option is to store historic data within the DCC.

Q23 & Q24. No response.

*Q25. Do you have any suggestions as to how the Foundation Stage can be used to further learn about our approach to data access and privacy?*

Onzo recommends that a statistically significant proportion of customers should be given access to higher resolution data to compare the effects of engagement during the foundation stage.

----- **End of Response** -----

**Attachments:** In Home Display Efficacy report - Onzo Efficacy Report 1v0 DRAFT. This is currently in draft form – an updated version will be available from [www.onzo.com](http://www.onzo.com) in the near future. This is the first of a series of ongoing reports analysing the effect of web connected IHDs on consumer behaviour for a real deployment of over 50,000 UK users.

Onzo would be pleased to share these ongoing insights with DECC to help inform the development of the UK smart metering deployment.

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