Introduction

PassivSystems wholeheartedly support Governments' initiative to roll out Smart Metering throughout Great Britain. Smart Metering will lay the foundations for the low carbon energy system our society needs to develop in order to meet our ambitious emissions reductions goals.

Further to this, the rich energy use and tariff will provide the platform upon which innovative businesses such as ours can develop customer-centric solutions to the challenges of delivering a low-carbon economy.

PassivSystems

PassivSystems Ltd, based in Newbury UK, was established in 2008 and is a leading provider of Home Energy Management systems. PassivSystems has been recognised by a number of independent bodies as a leader in its field. At the world's largest consumer electronics show, CES, held in Las Vegas in January 2010 Passiv was selected as one of the show's 'six hottest products'. In October Passiv was selected as one of the Global Cleantech 100, a list of the most promising clean technology companies from all around the world and in February 2011 PassivSystems was named a winner of the prestigious Red Herring Global 100 award.

Q19 – Do you think the licence conditions as drafted effectively underpin the policy intentions set out for the provision of IHDs to domestic consumers? Please explain your reasoning.

No – there may be occasions where a consumer does not take an IHD. If he moves from that property after 12 months the next occupants may not have had a Smart meter installed in their previous property but would now be expected to buy an IHD.

Q24 – Do you think that there are other requirements that the Government should adopt in the SMETS? Please explain your reasoning.

The communications channel created as part of the Smart Metering System (SMS) presents an opportunity to create additional value for customers (or reduce cost to consumers) by making best use of the infrastructure investment by providing added services. In order to facilitate this, the SMETS should define a mechanism for the extension of communication services into a home network and enabling the DCC to prorate the usage charges for communications that support these additional consumer services.

The SMETS should also offer flexibility for retailers to offer further services and capabilities beyond the display of cost and usage information on an IHD. The IHD features should represent a minimum acceptable functionality without restricting the ability of businesses to innovate around the IHD concept and the data available. This will facilitate a market for solutions which utilise the SMS communication infrastructure providing choice to consumers who will respond to the value propositions as they see fit.

PassivSystems believes that ensuring meter data values are not modified in the SMS is a matter of good policy and will provide confidence in the SMS to consumers. The SMETS should specify that meter data be left in its native format and that data translation should be avoided so data is delivered intact to the service provider.

To support accurate time synchronization between the head end system and the hub, the WAN should support a network protocol that does not automatically retransmit messages. For example in the IP network time synchronization messages should be sent using a UDP transport mechanism and not a TCP transport mechanism.

Q25 – Do you agree that all the requirements recommended in the IDTS should be adopted by the Government in the SMETS? Please explain your reasoning.

PassivSystems recommends against the adoption of a provision for the support of a single protocol over the WAN for a number of reasons as follows;

- A multi-protocol solution offers the flexibility for continued innovation and rich device

support, adopting a single protocol solution limits the overall SMS solution to the limitations of the chosen protocol.

- Multiple protocols support necessary functions not supported by DLMS today, such as battery operated devices, pre-payment features, efficient and reliable connectionless meter reporting, efficient time synchronization, and other types of HAN devices.
- A multi-protocol solution is better able to support a wide variety of devices, as protocols that are native and best suited to the features of the device can be supported directly without translation.

Ultimately, creating a large scale communications network such as that required to facilitate SMS is an expensive undertaking and, providing adequate security and quality of service provisions are put in place, it is counterproductive for the communications protocol to be specified centrally.

Q36 – Do you agree there should be no restrictions on the HAN standards adopted by suppliers, provided they are available as a European (CEN, CENELEC or ETSI) or International (IEC or ISO) standard? Please provide evidence to support your position.

In principle PassivSystems agrees that there should be few restrictions on the HAN standards with successful standards being allowed to emerge from a competitive market. We would caveat this by urging government to require HAN standards to be based on non-proprietary protocols with external endorsement and be available without the payment of a licence fee.

This will facilitate the greatest number of parties to participate in the market for HAN solutions. Fuelling innovation and providing the best level of choice and value to consumers.

Q37 – The IDTS has recommended that all standards should be recognised or be in the process of being recognised by 31 December 2014; do you agree with this recommendation? Please explain your reasoning.

PassivSystems believe that the system should be based around recognised, open standards. A deadline of 31 December 2014 is reasonable.

Q40 – Do you agree with industry's recommendation that DLMS and Zigbee SEP 1.x should be adopted as the application layer for communications within the consumer premises, provided they install the necessary translation equipment? Do you believe there are any consumer, economic or technical issues with this solution which could be resolved by an alternative approach? Do you have any economic, technical or consumer evidence to assist Government in evaluating industry's proposal?

PassivSystems agrees that DLMS and Zigbee SEP 1.x should be adopted as the application layer for

communications within the consumer premises.

However we have concerns regarding the ability of Zigbee SE to provide an end to end protocol. It was developed as an in home devices and its ability to handle the requirements of tens of millions of devices connected to a central head end is untested.

We advise translation capability to be included in the specification for the Communications hubs rather than in the DCC.

Q41 – Do you think the Smart Metering Implementation Programme objectives would be best met by the proposed approach above? Or should a single, network layer technology standard such as IPv6 be mandated? Please explain your reasoning.

The IP based systems in use today are mature, robust and widely adopted, and are therefore the most viable standard for the SMS. PassivSystems do not believe it is necessary to mandate IPv6 as it is not yet fully adopted, there are no features of the IDTS that require it and it is not supported by many network providers.

Q46 – Do you agree with the proposed approach for consumers to access data and transfer it from the HAN via a separate 'bridging device'? Please explain your reasoning.

PassivSystems support the adoption of a bridging device as set out in Option A. We support the Government's view that this provides the most future flexibility to consumers, providing them with choice and promoting competition in the market among device suppliers as well as communications standards.

In order for this to be an effective solution we would stress;

1. The importance of providing the consumer with the right to access the data being provided by their smart meter without interference from their energy supplier.
2. The importance of basing the bridging device on open standards.
3. The importance of making real-time sub second energy information available to other devices on the HAN so it can provide effective information to consumers so they can readily relate cause to effect.
4. The importance of making real time price and tariff information available to the HAN.

Q47 – Do you have any views on the options presented to ensure that electrical contractors can work safely and efficiently between electricity meter and the consumer unit/fuse box? Please provide evidence to support your reasoning.

PassivSystems would support the installation of an isolation switch between the meter installation and the consumer distribution board. We believe this would have practical benefits, reducing a large

administrative burden for DNO's, providing benefits for consumers who wish to participate in schemes such as FiTs and, as Government has pointed out, significant safety benefits.

Q48 – Do you agree with industry's proposals for an overall architecture of an application layer standard with translation through a Communications Hub to a HAN? Do you believe there are any consumer, economic or technical issues.

PassivSystems agrees with a standardised view for the HAN and sees no requirement for the HAN to be able to communicate with the attached devices using multiple protocols.

We believe adopting a single protocol for all meters on the same HAN allows cost effective communications

We also believe that investment in getting this right at the outset will reduce necessary additional expenditure and redundant equipment at a later date.

Q49 – Where do you believe that translation is best managed: a) At the Communications Hub; Or b) At the DCC? Do you have any economic, technical or consumer evidence to assist Government in evaluating the options?

PassivSystems believes that it is most practical for translation to be managed at the Communications Hub to avoid duplication or transmission and excessive processing overhead at the DCC.

Q50 – Do you agree that the IHD should only be required to display ambient feedback based on energy usage? Please explain your feedback.

PassivSystems believes that the IHD should be able to provide an instantaneous display of energy consumption with an option of consumption figures or ambient display. Tariff information should be transparent to the customer and therefore always available to be displayed

Q51 – Do you agree that Smart Metering Equipment should be designed to support the calculation and/or display of account balances as described above, even though suppliers may not initially be mandated to invoke such functionally for credit customers?

Yes, PassivSystems agree that Smart Metering Equipment should be designed to support calculation and display of account balances; we believe this is essential for the SMS to be an effective tool in promoting energy efficiency. Particularly we would urge Government to ensure that all data available to the IHD is also available to devices on the HAN. This includes sub second information on energy use as well as tariff information.

Q57 – Do you think that a different approach to assurance is necessary for the Foundation and enduring phases? Please explain your answer.

PassivSystems believe that a market-led approach would be preferable to an assurance framework during the Foundation phase. Under a market-led approach standards should be allowed to evolve to meet real world and real market needs. Any other approach will have a detrimental effect on innovation and be damaging to the SMS deployment.