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Smart Metering Implementation Programme Prospectus

Accenture's Response to Ofgem Consultation
September 2010

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Executive Summary

The Smart Metering Prospectus Package is an important step towards the deployment of Smart Meters as an essential tool in the United Kingdom's future low carbon energy system and Accenture welcome it's publication. A well designed and well executed deployment of Smart Meters can and should contribute to helping the UK increase its energy security through better demand management, optimise the cost of the energy system through better information and help reduce carbon emissions by supporting the longer term electrification of space heating and transportation. Smart Meters provide a key part of the low carbon puzzle in facilitating an environment with more intermittent generation from wind, increased less flexible generation from nuclear and distributed sources provided locally.

By well designed and well executed deployment approach, we mean an approach that puts the Public Interest Case at the heart of it. Experience from around the world and specifically the United States, Holland and Australia shows that approaches that don't put the consumer interest in the foreground are likely to meet resistance and fail in their primary objectives.

A recent consumer survey completed by Accenture reveals interesting trends in consumer perception of utilities companies, energy efficiency and energy management¹. For example, only 29% of consumers trust their utility provider to inform them about actions they can take to optimise energy consumption. When asked which factors most discouraged them from adopting electricity management programmes, 46% of consumers cite concerns that it will lead to an increase in their electricity bills. It is very important that the implementation approach engenders and maintains trust with consumers.

Our view is that the Public Interest Case is met when the implementation approach meets the following criteria:

- it maximises convenience for consumers during the deployment; the actual experience of changing meters in homes needs to be easy and efficient
- it minimises the ultimate costs to the consumer from the transition
- it continues to enable competition for energy supply and energy services
- it provides a clear path to future value adding services.

It is because of these criteria that Accenture has longed believed (as per our letter to DECC last year on May 30th) that a DNO led deployment would be best.

The current approach favours certain suppliers over others due to variations in customer density distributions for example. The advantages of a DNO led deployment approach include:

- a. This is the most efficient and least costly approach of visiting homes. A structured geographic based roll-out can be shown to be cheaper as well as much more likely to allow coordinated awareness campaigns to be run that will help win consumers over to the benefits of having smart meters installed
- b. Avoids multiple home visits by different suppliers for different meters for example
- c. The existing balance sheet structures, financing mechanisms, regulatory asset valuation and cost recovery methods lend themselves to cheaper and easier financing and sourcing of the new meter assets

¹ Source: Understanding Consumer Preferences in Energy Efficiency. Accenture 2010. Available upon request.

- d. This approach will not favour one supplier over another and indeed allows the DNOs to create level playing fields even for new entrants who could bring new innovation to customers – the current approach will hinder this
- e. Much of the ultimate Smart Metering business case for UK Plc relies on tight integration with future Smart Grid solutions – a DNO led approach makes this much more likely
- f. A DNO led approach allows creative methods to be employed for example in the treatment of new low carbon infrastructure in homes that will strongly facilitate the new Green Deal for consumers.

We believe that most of the industry is in agreement with these conclusions but will support much of the current process given its momentum. Given that the process is indeed far along and UK Plc has a need for quick progress, we propose the following mitigations to the current approach:

- a. A regulated approach where the DNO is set up as the primary contractor for each given region will enable a co-ordinated roll out on behalf of multiple suppliers, which will bring best value for money
- b. The above will avoid multiple home visits, with close coordination between suppliers and DNOs
- c. Removal of technology risk through early agreement of the metering system functional and technical specification enables lower cost financing to be offered. Managing these assets as DNO regulated assets provides a level playing field and allows for a faster roll out
- d. An open platform in the home onto which any player can offer services is required to bring innovation to customers. It will also support the development of non energy services delivering further customer and carbon benefits (for example, e-health). It is not clear that the current approach prioritises this
- e. The programme needs to support DNO access to real-time network data and DCC historical consumption data. We believe that the DCC must support demand response, potentially the biggest win from smart metering infrastructure. We would recommend a defining of hierarchy of control for demand side management and associated industry flows and processes
- f. The communications channel into the home must support both unregulated and regulated services and be upgradeable to support new products and services as they are developed. This will enable the provision of not only energy but other sustainable living services.

We believe the new Governments desire for an accelerated rollout is desirable, but we do need to ensure we are meeting the Public Interest criteria laid out above so that we avoid finding ourselves in a situation where we 'repent at leisure'. A rethink on key elements of the design and implementation of the Interim and Final DCC is required by elevating the shaping decisions, covering the most senior level industry executives, to provide a "principles level" set of directions to the working groups on:

- a. Avoid or minimise stranded costs arising from interim roll out solutions as these will otherwise be passed onto consumers
- b. The timetable for implementation of the DCC does not yet include industry preparedness testing (as was required in the roll out of domestic competition) and the product development timetables are unrealistic – without these the implementation risks are very high and are likely to affect public confidence
- c. The introduction of the DCC and its associated processes provides a once in a lifetime opportunity to simplify existing industry processes, data flows and working practices. It also allows us to reduce cost and to improve service to customers. We should fully embrace this

opportunity to remove some of the existing industry complexity – it is not clear that the current programme will deliver this

- d.** The scope of interim and final DCC solutions to include supplier registration and interoperability from day one in order to facilitate competition
- e.** Ensure a future path to allow value added services beyond simple energy consumption information to avoid 'regret costs' being incurred or unnecessary barriers being erected. For example in other countries communication protocols inside the home connecting appliances are set in advance to allow mass scale roll-out of beneficial new services
- f.** Design of the solution for homes that do not and will not have broadband coverage to enable added value services to be provided to all customers
- g.** Design of the data security approaches
- h.** Ensure the gas market differences are addressed.

We believe that the considerations proposed above will result in a much more successful implementation of Smart Meters in the United Kingdom, whereby suppliers will be able to concentrate on the best customer propositions, product development, customer trials and the marketing campaigns necessary to build trust – ideally in close collaboration with the Government.

Accenture's Response to Questions Raised

Accenture has reviewed the materials provided by Ofgem in the Smart Metering Implementation Programme Prospectus and accompanying documents with interest. The purpose of this document is to provide a response to Ofgem to the questions Accenture believe are most relevant, and which align with Accenture's expertise.

Accenture has selected these questions for one or more of the following reasons:

1. Where our experience of implementing smart metering infrastructures in other countries qualifies a particular viewpoint
2. Where our knowledge of the UK energy market tells us that there is a specific concern worthy of calling out for the UK market
3. Where there is a specific aspect of the proposed approach that we would like to advise against

The Prospectus

Question 2: Do you have any comments on our overall approach to data privacy?

Accenture supports the smart metering programme approach to data privacy. We agree that customer data privacy and security are critical to ensure customer adoption of smart meters and the expected carbon footprint reduction. We concur that the principles of privacy by design and security by design are required for the implementation of security and privacy. Efforts in this area must be well understood, documented and visible to support the credibility of the solution.

Accenture regularly conducts privacy impact assessments of systems, projects and offerings which involve processing of personal information at many stages during the development and implementation of information technology solutions, and we are not only familiar with detailed requirements on this matter but also welcome transparency and strong governance.

The smart grid offerings should adopt the existing data privacy regulations in the UK and correlate these with European and international law.

In the application of data protection and privacy law, as well as the access control model, one of the main objectives is that aggregated customer data should not enable anti competitive, illegal or discriminatory uses. Collection of personal information must be always formally justified (including an impact assessment) and restricted to the minimum necessary for business purposes. According to established regulations, data should be retained for as short a time as possible, strictly to support business operations.

Agreed legitimate uses of data, need to be complemented with mechanisms to minimise the risk of unauthorised access, including illegal commercialisation of data and data retention regulations covering data transferred beyond the original service supplier.

The smart metering programme documentation implies the application of the Data Protection Act 1998 (DPA) where personal data are involved. Following from our experience, we understand that in practice it can be difficult to determine whether personal data are involved (e.g. single vs. multiple occupancy households and domestic vs. non-domestic end users). This requires clarification of the applications of the Data Protection Act to avoid industry participants adopting differing approaches and to provide clarity to customers.

We, therefore, agree with the goal of establishing a privacy charter. Our suggestion is that the privacy charter should allow for some level of freedom for the industry, so to accommodate advances in service development and technical solutions. The participating industries should be able to implement their own data protection programmes where appropriate.

In order to complete the strong consumer-centric values of the proposed charter, we recommend the adoption of an opt-out model on sign-up (in conjunction with clear information about potential uses and the ability for customers to change their preferences). This would give a very straightforward framework for the industry participants and favours consumer adoption.

A key element for the success of the charter is the role of an independent oversight body. We recommend the establishment of clear guidelines for the operation of such body and for the relationships between regulators. Accenture would welcome the opportunity to participate in the Privacy and Security Advisory Group as an external stakeholder.

In order to anticipate the results of the smart metering programme, the charter should admit differing security and privacy requirements for services “beyond” the meter, but nevertheless conveyed through the grid infrastructure. This will support the future commercial success of the programme.

Accenture recommends giving special attention to data protection regulations so to favour innovation and market competition. It is especially important to avoid conflicts between regulated and unregulated services or channels taking place over the same network.

At a different level, we would like to make a distinction between data controllers and data processors.

Accenture - as a ‘data processor’ - has a comprehensive client data protection program and we envisage that data processors will necessarily ensure compliance with appropriate standards as an integral part of their offerings. We note the proposal for smart meters to store 12 months of data and for this to be accessible to the customer.

We would welcome clarity on how this fits with the exercise of the ‘subject access right’ under the DPA by customers. Consideration should be given to the role of various industry participants as data controllers and/or data processors and whether responsibility for data protection compliance remains with data controllers as under the DPA. We suggest that this differentiation will bring clarity to the operational model and that imposing additional legal/regulatory data protection obligations on data processors in relation to smart meters would not be appropriate.

Question 3: Do you have any comments on the proposed approach to ensuring customers have a positive experience of the smart meter rollout (including the required code of practice on installation and preventing unwelcome sales activity and upfront charging)?

As the smart meter installation will be the first experience that consumers have regarding smart metering, it is of critical importance that this is positive, creating a good first impression. To achieve this, there needs to be an awareness campaign of the Smart meters and the benefits of having a new meter installed. This will also allow the utility companies to address any public concerns about the meter before the rollout starts.

The installing company will need to ensure that engineer visit appointments are honoured and attended on-time so that promises to customers are met. The quality of the installation work, and any necessary tidy-up work, will need to be of a very high standard.

In order for the smart metering programme to achieve the desired reduction in energy consumption, the installation should be carried out by someone sufficiently trained to be able to answer questions about the smart meter, the overall programme, usage of the meter and any associated IHD and should be able to advise on energy saving techniques. Lessons can be learned from the rollout of smart meters in Holland where some installing engineers were not sufficiently gas-trained, resulting in a high volume of customer complaints and avoidable re-installation workload.

Of course, it is not practical for every installation engineer to provide a bespoke energy consumption consultation with every customer, but supporting literature should be left with customers at the time of meter installation providing consumers with the guidance that they need to be able to make use of the data that is now available to them, benchmark their energy consumption with other consumers (e.g. average and economical usage profiles) and proactively reduce their own consumption. The literature should also sign post where customers can find out more information about the energy efficiency schemes and new smart metering tariffs (e.g. feed in-tariffs or TOU).

The consumer's first impression of the smart metering programme will not be limited to the meter installation. Energy suppliers should expect calls as installations are completed as consumers get to grips with their new meter and raise any issues related to the installation job itself. In order to make this customer experience as good as it possibly can be, companies need to anticipate this surge in customer contacts and plan accordingly to hold the hands of the consumer for the first few weeks after installation.

The end to end customer experience needs to be managed effectively, from customer communication prior to meter install through to post installation care. Customers whose energy bills have been estimated for a long period of time, who then receive a Smart meter providing accurate readings may cause their bills to rise significantly, where they could carry major debt. The customer management of this is crucial to ensure negative views are not formed against the new smart technology.

Accenture agrees with Ofgem's concerns over sales activity. Measures should be taken to avoid this. In addition, any contractual or tariff changes should be avoided at the time of smart meter installation to avoid public perception that smart metering costs more.

The smart meter installation process provides a good opportunity to ensure that vulnerable customers and those with special needs are appropriately cared for so that the positive customer experience is enjoyed by all segments. Attention should be paid to the identification of vulnerable customers and those with special needs before and during the smart meter installation process so that appropriate support can be arranged.

Question 6: Do you have any comments on the functional requirements for the smart metering system we have set out in the Functional Requirements Catalogue?

We agree that remote provision of reads, two way communication, HAN integration, remote disablement and enablement and ability to support time of use tariffs are essential and achievable functional requirements for both electricity and gas smart meters. We also see load management capabilities, export measurement and integration with micro-generation as essential requirements to ensure smart meters play their part in our low carbon future. We believe that a mandated list of functional requirements will help to ensure consistency across the meters deployed, but doesn't guarantee interoperability at the current level of detail.

While a greater level of detail may help towards technical interoperability, we believe that the primary enabler of interoperability is the scope of the DCC and the terms of communications contracts.

Within this high-level list we see some detailed functional requirements as a little more challenging to deliver:

- Remote configuration and diagnostics, software and firmware changes
- Integration with other devices
- Integration with other organisations

Remote configuration and diagnostics, software and firmware changes - we see this as more complex than it might initially appear. The complexity is in the exception handling. At a high-level this covers a lot of possible transactions. At the moment we can only be sure that these transactions are going to be bulky in terms of data transmitted and put an unusually high demand on the WAN and HAN. This fact alone poses the risk of outage or delay exceptions. We would venture to suggest that transactions of this nature would take place at times of the day when there would be least inconvenience to the consumer. This timing needs to consider availability of workforce to deal with exceptions, co-ordination with any likely load management activity and optimum micro-generation periods. We understand that remote configuration and software updates must be included but we suggest that this area needs to be explored to ensure it will be handled in the consumer's best interest. As much of this functionality and complexity should be managed by the comms box, to enable the meter to focus on measuring, and to enable it to be upgraded as new services are provided.

Integration with Other Devices and Other Organisations – the growing Home Energy Services industry means that new participants are emerging and will continue to emerge over the next decade. It will be challenging to baseline standards for integration when it is not clear what is on the other side of the interface. For example, other market participants might want to offer a 'one box' solution, where the IHD is incorporated in the device rather than linked to it. This causes concerns around data privacy, the IHD should carry out functions of visualising data, a payment tool and act as enabler to offer new services to customers.

Question 7: Do you see any issues with the proposed approach to developing technical specifications for the smart metering system?

Accenture propose a modular solution approach, which will support innovation, with clearly defined open interfaces and standards between each module to enable:

- interoperability
- adoption of best practice in these areas (e.g. zigbee SEP)
- evaluation of key technical challenges in each area
- specialist input in key areas identified as challenging

An early release of technical specifications will enable product development and feedback.

Question 8: Do you have any comments on the proposals that energy suppliers should be responsible for purchasing, installing and, where appropriate, maintaining all customer premises equipment?

Our view is that the responsibility should lie with the party/parties that will:

- maximise convenience for consumers during the deployment
- minimise the ultimate deployment costs
- continue to enable competition for energy supply and energy services
- provide an open platform for integration with value added services.

We do not believe that an energy supplier led roll out will meet all the conditions listed. For example, energy suppliers are constrained by the fact that their customers are geographically dispersed, the fact that they are not always the only energy supplier to a site and by the fact that they are vulnerable to a consumer backlash. An energy supplier led roll out will lend itself open to:

- poor customer campaigning (if it can't be regional)
- association of meter installation with price increases
- increased levels of switching (if meter installation is not handled well).

It is really important that the implementation is seen as something more significant than just another customer proposition, it must be seen as part of the network infrastructure required to deliver a low carbon future.

Furthermore, Accenture has concerns that an energy supplier led roll out could undermine competitive customer focused innovation. Whilst suppliers should take responsibility for delivering regulatory requirements, keeping the comms box 'open' could help facilitate innovation. A high degree of energy supplier responsibility could reduce this openness. However, Accenture accepts that this risk exists whoever takes on this responsibility. One possible solution could be to ensure that the terms of the supplier's responsibility are passed to the DCC at the time of its creation, and include a mandate for providing open interfacing for new services to the home.

Question 9: Do you have any comments on the proposal that the scope of activities of the central data and communications function should be limited initially to those functions that are essential for the effective transfer of smart metering data, such as data access and scheduled data retrieval?

Accenture believes that the most significant smart metering benefits will come from additional services provided on the back of the core DCC functionality, for example, energy management, demand response (for national system balancing, wholesale market risk management and local network management) and other local network functionality (fault identification, classification and restoration, enhanced planning). The current DCC scope does not fully enable these capabilities. Whilst a phased deployment may be appropriate, particularly given DNO readiness for deploying smart grid solutions and the limited level of domestic interruptible load until the electrification of heating and transportations, it is essential that the capacity to deliver wider benefits is not constrained.

Key considerations include half hourly settlement, provision of network data to DNOs on appropriate timescales and management of physical and commercial demand response data flows and associated hierarchy of control. The DCC design should take advantage of LCNF pilots to inform this but must take account of the potential timeline mismatches (i.e. robust results will not be seen from LCNF until 2012 - 2014).

The deployment of added value services will be important to able innovation within the industry and their adoption must not be constrained by the implementation programme for the DCC. Facilitation of these services must be supported, or included early in the DCC roadmap and not left as a "nice to have" for discussion and implementation at some future unspecified date.

Before the DCC is implemented, consideration should be given to Meter Point Registration Services and whether these registration services should be centralised immediately. This will provide significant consumer benefit through market process simplification for change of supply and other customer processes. It will enable an early transition to centralised services within the market, which will de-risk the integration with other DCC services. The centralisation of the services will also simplify the process required to provide the correct data to only the suitably authorised participants by having a single source of relationships and responsibilities within the industry

for each meter point. This should be deployed prior to DCC go live or within the scope of the first activities of the DCC at the very latest.

Question 10: Do you have any comments on the proposal to establish DCC as a procurement and contract management entity that will procure communications and data services competitively?

Whilst we do believe that procurement and contract management should be responsibilities of the DCC, we also believe that the DCC has a very important role to play in facilitating the future direction of the smart-enabled industry towards delivering services to consumers to support low carbon sustainable living. The DCC must be more than a procurement vehicle, as it will be at the heart of the industry it must facilitate the consumers move towards a low carbon living. This will require the DCC to have a governance framework that supports this intent, with overarching objectives to provide:

1. Smart metering inter-operability
2. Changes that enable market simplification
3. A communications infrastructure for services that will enable all consumers (irrespective of circumstance) to reduce their carbon footprint within their homes
4. An environment to enable national smart grid (and demand side management) services to be delivered cost effectively

To deliver this outcome, the DCC must have the capability, and the capacity to act as the industry's 'guiding light'.

The method of establishment of the DCC, and the transition of services to the new entity will also be a key to its success. The new entity must provide for a seamless transition from a pre-DCC world; taking on board lessons from this period and provide existing service providers (for example, communications companies, meter assets providers) with a transition plan to enable their services to continue under the main DCC provider's remit.

The proposed structure is currently not the most efficient in terms of time to procure, implement, and integrate the DCC with the existing industry participants. Action must be taken to address this as the final model is defined. It must not:

- Worsen customer service during the transition
- Add additional risk and uncertainty into the market that slows down the deployment of smart meters or development of new services
- Increase the costs associated with the smart metering programme by increasing commercial risk, interoperability risk or early obsolescence of pre-DCC comms solution

The model also needs to consider the varying communication requirements of beyond the meter services. There is a risk that the UK will become tied to a solution that does not plan for the needs of new innovative services and this must be avoided as it will limit the future potential of the smart metering roll out. The model and associated governance must be designed to take account of this, and provide a platform for a future upgrade path towards these new services.

In addition, the proposed time scales for the DCC deployment is challenging, given the need to run rigorous procurement activities for the DCC entity and for the services that it will itself procure. Enabling an interim DCC to be part of the transition to a final DCC would assist timelines for DCC deployment.

Accenture recommends the publication of a detailed project plan for the DCC implementation that will provide confidence in the market that the programme is deliverable.

Question 13: Do you agree with the proposal for a Smart Energy Code to govern the operation of smart metering?

Accenture believes that a Smart Energy Code is essential to safeguard the interests of consumers and to ensure that the smart metering programme is able to achieve its aims of decarbonisation. It should encourage innovation and consumer choice in order to maximise the overall benefits of the programme.

The code should be governed centrally by a body that is able to act impartially and represent the interests of consumers, energy suppliers and network operators, environmental bodies, meter asset providers, meter asset managers, meter operators and metering and communication equipment manufacturers.

Accenture believes that the most effective model will involve either setting technical requirements that account for all possible beyond the meter services or allowing open provision of enhanced comms on a competitive basis. The code must allow for innovation in added value services and not act as a barrier to new services, or in particular set constraints such that access to the new communications channel into the home cannot be utilised to enable more sustainable living (including DSM, energy management, network balancing and in future e-health type applications).

The privacy role states that only readings required for billing should be collected from the meter. If billing is provided on a quarterly basis, then taking one read every 90 days will not be enough to optimise all master operations across the energy value chain. If the benefits from time of use tariffs and accurate settlement are to be passed onto the consumer, then the supplier (or market agent) will require more frequent and timely data than just one read per bill period. To drive optimum time of use tariffs then reading per half hour (for electricity) will be required to enable usage and generation profile to be matched (rather than depend on estimated synthetic usage profiles as is used today) otherwise benefits from consumption being moved to non peak periods cannot be fully recognised.

Question 14: Have we identified all the wider impacts of smart metering on the energy sector?

Accenture feels that Ofgem has identified and touched on the key issues but greater direction is needed for the industry to take action. For example, low carbon networks and demand response are critical to the UK's low carbon future but these are mentioned only briefly.

Successful delivery will require a transformation of industry capabilities and could be accelerated through new entrants bringing new capabilities and services for incumbents to respond to. The sooner and the clearer the signals that these opportunities (and, in the case of networks perhaps regulatory requirements) will exist, the more likely companies are to invest in preparation, allowing rapid and successful scaling.

At the moment there are significant risks that could mean that the industry, market and regulatory frameworks will not be in place in time for the planned rollout, or that consumer engagement is not conducted in a sufficiently robust and structured manner. The market needs a clear roadmap enabling parties to plan and anticipate future market needs. The market structure that is set up must also not be unique, it must enable offering and services that are created in the UK to be exported to the rest of the world and for the UK to be able to benefit from innovations created in other markets.

For example, new entrants such as data aggregators need to know that the UK is an attractive growth market, which should be a focus for their innovation and investment.

Vertically integrated firms need to know that they can create integrated portfolio value from customer demand and so invest in developing the necessary retail capabilities to grow customer appetite for demand side management and the necessary gross margin and trading and risk management capabilities (potentially across Europe) to optimise prices for these services.

Question 15: Is there anything further we need to be doing in terms of our ensuring the security of the smart metering system?

A multi-facet defence-in-depth approach is required to ensure the overall security of the smart metering system. The security solution should prevent the smart metering system against known and unknown attacks (day zero attacks), unauthorised access, physical tampering, information compromise, denial of service, eavesdropping and other threats.

A set of preventive, detective and corrective controls should be implemented to ensure the security of the smart metering system which includes smart metering end devices, management and monitoring systems, network infrastructure and payment environments. Some of the key controls which should be implemented to meet the smart metering security requirements are: Network segregation, data encryption (in transit and rest), near real time monitoring, device/user authentication solution, device registration/deregistration, etc.

The control environment needs to be supported by a governance framework, appropriate policies and procedures, continuous monitoring and a maturity model to ensure that the overall smart metering system is protected against known and unknown issues and effectively responds to the changing threat landscape.

A secure smart metering solution can be achieved by taking a holistic view of the smart metering system, a structured approach to risk management and embedding security into the initial solution and not as an add on.

Question 16: Do you have any comments on the proposals for requiring suppliers to deliver the rollout of smart meters (including the use of targets and potential future obligations on local coordination)?

Accenture believes that the best value for money roll-out approach requires close local coordination between the parties and should be led by the DNO businesses on a street by street basis. However, we recognise that this approach is now unlikely to be followed given previously published decisions. With the obligation from the mandate falling onto the suppliers, it is important that the roll out is designed to allow the involvement of local community groups which, in our global experience, has been an important factor in facilitating buy in from customers and ultimately influencing their energy consumption behaviour in a positive way.

Question 19: The proposed timeline set out for agreement of the technical specifications is very dependent on industry expertise. Do you think that the technical specifications can be agreed more quickly than the plan currently assumes and, if so, how?

Accenture believe that a broad selection of players with appropriate expertise, such as meter manufacturers, telecommunication providers, home area network companies, security experts and distribution companies should be utilised to deliver the specification and ensure that all areas are covered appropriately. This will be important to reduce technical and commercial risk, and enable companies to deliver solutions that will be interoperable and to the approved standards in the fastest possible time.

It is also important that the long term objectives of the programme are taken into account when the specification is agreed. For example, the HAN protocol should allow for integration with new technologies such as "e-health" and similarly, WAN specifications require strong input from WAN service providers, who have deep understanding and experience of the technical capabilities and attributes of potential solutions and understand the future roadmap of the communications industry. Excluding primary input from these experts could inhibit

customer focused innovation and create blockages to non energy services that can promote carbon reduction. Therefore, cooperation, insight and learning from industry experts is crucial to ensure the technical specifications are robust as well as ensuring no barriers are formed to customer focused innovation.

Accenture does not believe that the final technical specification can be delivered significantly earlier than proposed however we'd like to stress the importance of staging the delivery of technical specifications so early drafts are circulated for comment and that hardware specifications are announced first, allowing a faster deployment and reducing the stranding risk for the industry.

The use of existing technology with open standards which has been tested and is successful today in the Smart market place should be considered such that it can accelerate and de-risk the programme.

Communications and Business Model

We support the proposed central communications model for the delivery of smart metering. We believe that the key benefits to this model are indeed cost efficiency, industry process efficiency and future flexibility for smart grids. However, with a broader scope than that which is initially planned we believe that the DCC represents the opportunity for further benefits. We agree that the DCC could play a transformational role in streamlining and managing energy industry processes and enabling adoption of value-added services. For example, we believe including meter registration in the initial scope will deliver benefits without introducing unreasonable risk, or changing programme timeframes.

Furthermore, we believe that the definition of scope presents some challenges. Non-domestic customers may include high energy operators but will also include Small and Medium Enterprises that have similar energy usage to domestic sites. We are also concerned for the change of classification process, when a site changes from domestic to non-domestic or vice versa.

We recommend elevating the DCC shaping decisions from the working group level to senior industry executives. Specific areas for consideration are:

- avoid or minimise stranded costs arising from interim DCC solutions
- industry preparedness testing
- leveraging the once in a lifetime opportunity to simplify existing industry processes, data flows and working practices
- addressing gas market nuances.

Question 1: Do you agree that access control to secure centrally-coordinated communications, translation services and scheduled data retrieval are essential as part of the initial scope of DCC?

Yes, Accenture supports Ofgem's strategic direction towards making the smart meter route available to every home for a range of value-added services to other sectors. Whilst keeping this direction and scope, the various stages of the delivery programme must ensure timely responses to industry developments whilst mitigating increased risks derived from complexity, costs and performance limitations.

Accenture's position is that an early adoption of an access control component is necessary as an essential part of the overall solution. This corresponds to major requirements of the programme for information assurance: data privacy, confidentiality, availability and integrity of data transmission. The access model chosen needs to be strong to ensure these goals are met, but at the same time flexible enough to adapt to changes in the mix of services running over the infrastructure.

Accenture believes that there is no contradiction between acting as a "gatekeeper" or a "key master" in terms of access control. Current security protocols and technologies allow for the carrier/operator to act both as an intermediary to semi-autonomous suppliers using the infrastructure as a data pipe, as well as a host to more evolved arrangements between parties (including end users).

Risk, complexity and cost of the initial implementation can be kept under control by ensuring that the carrier data channel and the link protocols are flexible enough to support multiple authentication and authorisation software protocols over the network. Additional services or extensions of the business model will then require only the modular authentication/authorisation protocols without requiring changes to the carrier network.

Question 2: Do you agree that meter registration should be included within DCC's scope and, if so, when?

Yes, Accenture agree that meter registration should be included in the DCC scope from the outset, and further believe that it could be delivered before the deployment of the DCC. We believe that there is an opportunity to simplify and improve the incumbent meter registration process. Meter registration represents an opportunity to reap cost benefits through centralisation, economies of scale and process efficiency as well as being the appropriate event to integrate the meter into the new infrastructure.

The current process is complex due to the historical changes seen within the industry. Over time, that complexity has amounted to a degree of inaccuracy in terms of the meter data being passed between industry parties and the timeliness of messages sent and received. Smart meters will, by default, eliminate many process exceptions caused by a lack of visibility of the meters in the field. However, smart metering in itself will not eliminate the miscommunications between industry parties if the current roles are not changed. Therefore, we believe that as far as possible, smart meter registration should not inherit the failings of the current processing. We agree that changes to existing cumbersome systems and processes will be expensive but we do not think the effort required need be disproportionate to the benefit gained in due course. In order to control the scope, we propose starting with new meter point registration and then bringing in Change of Supply for customer transfers at a later date.

Accenture believe that the process for centralising registration should begin immediately and should be deployed prior to the DCC providing interoperability communications services.

Question 3: Should data processing, aggregation and storage be included in DCC's scope and, if so, when?

Accenture recognise that from a data privacy perspective including data aggregation and storage of customer usage data represents a greater challenge than simply collecting one read per billing period. However, to deliver the full benefits of new products and services the market needs to align the generation profile with customer actual usage profiles. This will enable any changes in customer behaviour (through load shifting) to be reflected in the necessary generation profile. Utilising today's system of profile classes and pre-defined settlement curves does not allow for the full benefits of this to be harvested, and this will remain until half hourly settlement is introduced for all smart metered customers. Full settlement should therefore be introduced into the scope of the DCC when the volume of smart metered customers is such that the new services will make a tangible difference to wholesale settlement for any particular supplier in the UK.

The current data processing role (NHHDP) should also be reviewed with the introduction of smart metering, where estimated reads and the need for complex validation rules will become obsolete. The DCC should provide accurate data to the market participants, but should not be required to undertake the same obligation as the current NHHDP. The obligation of accurate data delivery clearly needs to be included into the DCC scope from day one.

Question 4: Do any measures need to be put in place to facilitate rollout in the period before DCC service availability and the transition to provision of services by DCC, for example requiring DCC to take on communications contracts meeting certain pre-defined criteria?

Accenture encourages the early roll out of smart meters to take advantage of lessons learnt from deploying processes and solutions in small scale prior to the deployment of the DCC. This in turn will assist with DCC readiness to make sure that the right issues and challenges are addressed early. However, additional cost burdens and risk must not be placed on the industry during this time and Accenture strongly recommend the creation of an interim DCC service to manage interoperability between meters and suppliers and to reduce the cost and risks associated with this period.

Early smart metering roll outs will benefit from an interim DCC, where interoperability is present from day one, this is vital to ensure a positive customer experience as well as reducing potential additional costs for suppliers to deal with complexity and commercial issues in the pre DCC phase. Therefore, Accenture support potential interim DCC parties who can deliver interoperability including registration and change of supply from the onset, furthermore the interim DCC should not be prohibited from applying for the DCC licence. Clarity is required on interim DCC arrangements and the transfer of contracts to final DCC, this forms a vital part of the staged implementation strategy.

Ofgem has obligated suppliers to roll out smart meters prior to the creation of the DCC, and manufacturers and services providers will react to this opportunity, however the period between the roll out mandate being enforced and the creation of the DCC is too short a time for R&D to be recovered at an appropriate rate prior to the DCC beginning operation. It is therefore extremely important that contracts for solutions which are compliant with the functional and technical specifications issued by Ofgem e-serve are honoured by the DCC. Guidance on this arrangement should be provided by Ofgem e-serve as soon as possible to enable companies to begin preparing for the development of new products as soon as the specifications are issues.

Failure to do this will produce a distorted market, where non-compliant solutions designed to the advantage of the first mover in the energy supply market will remain as the defacto solution until the DCC exists, and will have to be utilised by the other suppliers as the full range of other alternative products will not be brought to market at this time. There is also a risk of inappropriate contract obligations being placed on manufacturers and service providers, thereby making the transition to the DCC more challenging.

Please also refer to our response to question 10 of the Prospectus earlier in this document.

Question 6: Do you consider that DCC should be an independent company from energy suppliers and/or other users of its services and, if so, how should this be defined?

More clarity is required on the definition of "independent". DCC should be an independent company but the classification of "independent" should not be so confined that potential industry parties are excluded from bidding for the DCC.

Accenture believe that the DCC as an independent body should encourage and enable carbon reduction as well as promote innovation for sustainable living.

Question 7: Do you have any comments on the steps DCC would need to take to be in a position to provide its services and the likely timescales involved?

We strongly support the creation of an interim DCC function. It will de-risk the final deployment of the DCC by becoming to be a credible working prototype of the final solution.

Accenture do not believe that the timetable currently outlined for the creation of the DCC is achievable. The implementation of a fully operational DCC within 12 months of contract award will be extremely challenging given its scale and complexity:

- Implementation of the DCC infrastructure for a service anticipated to cost £20m pa to operate (as stated by Ofgem) would normally take in excess of 12 months to implement, especially as it will need to include the integration of multiple parties including security, data management and communications services
- Pre-existing contracts with the DCC will need to be in place in order to try to reduce the delivery timetable. These will need to support the legacy (6%) smart meters that will be deployed prior to its go-live, but after its contract award, which may be unachievable

- During the 1998 programme, industry testing took in excess of 6 months to make sure that all participants could operate the industry processes and that the market functioned successfully – this element does not appear to exist in the plan
- The existing smart meter comms infrastructure and any interim DCC will need to be migrated to the DCC, there is no time in the plan for this to occur prior to DCC go live
- Any new communications technology to be operated by the DCC as the preferred solution will need to be procured and the supply chain set up to enable suppliers to install the devices. They will also need to be trialled to prove that they operate as expected and do not impact the customer experience.

Accenture recommend that the timescales for the DCC are reconsidered and are re-evaluated to take into account lessons learnt from the 1998 programme as well as other large scale government delivery programmes.

Statement of Design Requirements

Accenture encourages Ofgem to facilitate a rigorous, industry-led requirements specification process. This is critical to ensuring that the best possible end to end technical solution may be achieved with maximum interoperability, maximum extensibility and maximum future-proofing. Current smart infrastructure deployments across the world offer a range of tried and tested technical options. However, attention must be paid to any known intricacies in the UK market and clearly stated in the detailed design requirements.

Question 1: Should the HAN hardware be exchangeable without the need to exchange the meter?

Accenture believe that this would result in additional costs that can be avoided. Both the electricity and gas meters will have to be equipped with a HAN interface. Making this interface modular and removable would result in a substantial cost increase. A more practical approach would be to select future proof HAN technology that will also support backwards compatibility as HAN standards evolve over time.

However, Accenture do believe that the main WAN communications module should be upgradeable and that the HAN technology it supports should provide the ability for upgrade as standards are refined and new technologies are introduced.

Question 2: Are suitable HAN technologies available that meet the functional requirements?

Accenture expects that a HAN that requires dedicated wiring will not meet all functional and technical requirements for smart metering. The technology should be wireless or make use of power line communications (PLC) which will be needed to overcome the challenges faced with flats.

A suitable wireless HAN technology candidate is Zigbee Pro v1.1, which has international standards. For PLC the Homeplug Command & Control standard that is currently under development also looks like an interesting suitable candidate. Note that convergent solutions that support interworking between Zigbee and Homeplug CC are also already under investigation.

It is probable that both technologies will be required to meet all the constraints imposed by the different housing stock in the UK.

Question 7: Do you agree that the proposed approach to developing technical specifications will deliver the necessary technical certainty and interoperability?

Accenture agrees with the proposed approach that technical specifications should be industry drafted and programme facilitated. However, in order to achieve the timelines, the programme facilitation should be extremely rigorous, working with clearly defined deliverables, review and approval processes.

Accenture believe that as well as suppliers other market participants such as DNOs, manufacturers, WAN service providers and services companies should be closely involved.

Special attention should be given to technical interoperability. We recommend that development of interoperability tests and verification tooling should be made part of the developments.

A clear project plan must be published as a matter of urgency and milestones defined within the plan must be rigorously adhered to.

Rollout Strategy

We wholeheartedly agree that it will be customer use of smart metering enabled technology that will be key to the Programme's success, as opposed to the physical installation of meters and in-home displays. We do not believe, however, that energy suppliers are best placed to schedule deployment activities efficiently or quickly.

Whilst we think the idea of "early adopters" spreading positive messages about smart metering may help promote wider consumer engagement, we think it is more likely that this method of promotion is very slow and high risk. We would advocate a regional approach as being far lower risk and lending itself well to efficient, regional campaigning. As the Green Deal is being presented as a Government initiative, a regional roll out would also lend itself well to alignment with governmental campaigning.

Question 4: What is the best way to promote consumer engagement in smart metering? As part of broader efforts, do you believe that a national awareness campaign should be established for smart metering? If so, what do you believe should be its scope and what would be the best way to deliver it?

In Accenture's experience of smart metering implementations elsewhere in the world, a smart metering deployment can generate a certain degree of negative press and publicity, especially if the benefits are not clearly explained to consumers. For example, the implementation of smart metering in the Netherlands was accompanied by a number of consumers claiming, for example, that smart meters were to blame for an increase in the incidence of headaches whilst at home. If unmitigated, negative PR will damage consumer engagement and will jeopardise the decarbonisation objectives of the overall programme. As such, a national awareness and engagement campaign should be considered an essential enabler for consumer buy-in and support for the programme.

Accenture consumer research on energy management (Understanding Consumer Preferences in Energy Efficiency) suggests that only 29% of consumers trust their utility provider to inform them about actions they can take to optimise energy consumption. Consequently, this PR campaign will ideally involve a number of parties including local and national Government. It should be delivered by a credible industry spokesman that is capable of gaining the trust of consumers and will not be biased by any one specific utility supplier. A wide range of community marketing techniques could be utilised to encourage engagement. For example, existing schemes could be built upon to reward the households, streets or communities that are able to achieve the largest reduction in energy consumption (e.g. Greenest Street Competition governed by local councils). In addition, misaligned or conflicting messaging from different utility companies could potentially be damaging to the credibility of the overall programme and should be avoided, further reinforcing the case for a centrally managed and coordinated communications campaign.

Any national awareness and engagement campaign should be delivered in sync with the actual rollout of smart meters. Customers who electively opt into smart metering will, by definition, be engaged with the programme. It is the consumers who do not electively join the smart metering programme who could present the biggest opposition to acceptance and adoption. To address this, an awareness campaign will need to first of all build widespread support for the programme before then targeting those specific groups who are still not engaged prior to installation. National and localised messaging alike should be timed carefully such that communications delivered to consumers are promptly followed by the roll out so that the positive impact of the PR campaign is not lost in time. Access to supporting information and advice should also be clearly signposted.

The campaign should focus on the benefits to the consumer and to the UK as a whole, rather than focusing on the deployment of a new meter. Customers do not relate to meters, so why should they want a new one, even if it is smart?

Question 6: Do you agree with the proposed obligation on suppliers to take all reasonable steps to install smart meters for their customers? How should a completed installation be defined?

Accenture believes that meter installation should be led by the DNOs as a supplier-led approach favours certain suppliers over others due to variations in customer density distributions.

However, irrespective of which organisation undertakes the deployment, minimum standards for the installation should be agreed up front focusing both on the customer and the technical challenges imposed by the deployment. This should incorporate the necessary safety guidelines as well as ensuring a positive consumer experience.

In Accenture's view, a successful implementation should meet the following minimum criteria:

- Meter installed at premise (by DNOs according to nationally agreed guidelines)
- Meter is successfully sending and receiving messages from the DCC / MDMS
- Communications is proven to the in home display at it's location of likely use and the consumer is aware of it's features and benefits
- No outstanding customer complaints or enquiries received 30 days after the date of installation.

Regulatory and Commercial Framework

Accenture believes that the regulatory and commercial framework that underpins the smart metering infrastructure and business model will need to be carefully thought-out and well executed in order to stimulate the growth in demand side management that is necessary to achieve the programme's decarbonisation objectives.

We encourage an open yet regulated framework that enables new entrants to contribute to innovation, consumer choice and an overall reduction in energy consumption. The objectives of the regulatory and commercial framework should include ensuring consumer protection and encouraging innovation whilst not allowing any one player to develop a share of market that threatens consumer choice. The regulatory framework also needs to play a role in managing the complex hierarchy of ever increasing market participants.

Question 5: Do you agree with the proposals concerning the roles and obligations of suppliers in relation to the WAN communications module?

Accenture believes that the supply of the WAN communications model should be provisioned by the entity responsible for the meter roll out.

In the case where the supplier is responsible for deployment, Accenture agree that suppliers should be responsible for the installation and stabilisation of the WAN communications module to ensure successful and complete communications with the DCC. The interoperability and security standards for the communications module must be provided by the DCC and the suppliers must provide proof that their devices adhere to these standards. Once each communications module is stabilised, and the DCC is satisfied that it is performant, we believe that there should be a handover of the WAN communications module from the suppliers to the DCC so that other suppliers and/or new entrants are not prevented from making use of the existing WAN components to offer new value-added services which may benefit consumers and contribute to further carbon reduction.

Accenture believes the procurement of the WAN module should be the responsibility of the supplier and not the service provider, this will ensure suppliers are fully responsible for installation and are able to deal with faults associated with the installation effectively.

Although the supplier should be responsible for the initial procurement of the WAN module, they necessarily do not need to be the owners of the module. By creating a communications asset provider, competition is leveraged and a gateway is created for innovation where access to the home can provide potential new products to consumers.

Accenture recognise that the WAN communication module can create opportunity and innovation which could open up the Smart Metering infrastructure to many participants, participant systems, and devices which could create numerous weak points both physically and at system interfaces. However, the benefits will outweigh the risk introduced if it is managed correctly.

Participants and systems must be accredited to ensure they meet security requirements. In addition to defining preventative security measures, we believe it is also vital that guidelines and responsibilities are provided to manage a response to security breaches or further preventative measures such as security upgrades (both physical and virtual). The definition of these responsibilities will be vital as assets will be owned and maintained by a wide range of parties.

Question 7: Do you agree with the proposal that the WAN and the HAN in customer premises should be shared infrastructure, with the installing supplier retaining responsibility for ongoing maintenance? If not, would you prefer to have an arrangement by which if the gas supplier is the first to install, responsibilities for the common equipment is transferred to the electricity supplier when the electricity smart meter is installed?

Accenture believe that the first supplier to install the Smart metering infrastructure should be the retaining supplier for ongoing maintenance to the WAN and HAN infrastructure. Therefore, the WAN module and service provider of the first supplier must be retained and the second supplier must agree to use the established set up. This proposal is highly dependent on the specification of the WAN module and IHD, which is not yet understood. There must be strong conditions around the physical or software modifications second supplier can make to common infrastructure to ensure functionality for both.

The proposal to transfer responsibility for maintenance from the first gas installer to the second electricity installer presents problems as the relationship between gas installer and WAN service provider is strongly established (including a SIM in WAN comms module and security arrangements). The electricity supplier would not have contractual relationship or compatibility to take over the maintenance of equipment, so responsibility is difficult to be transferred. Costs and benefits of common infrastructure must be shared between the suppliers through commercial arrangements but responsibility should sit with one party - this needs to remain with the installing supplier.

Commercial interoperability issues are central to supporting a working solution to this question, so there is a strong argument in this situation for the role of an interim DCC.

Question 13: Are there changes to settlement arrangements in the electricity or gas sectors that are needed to realise the benefits of smart metering?

Changes to settlement arrangements will be necessary and should be provided at the earliest commercially practical opportunity, but looking at settlement arrangements alone is not enough. If domestic demand side management and optimisation is to happen, half hourly settlements across all electricity connection points is needed.

To drive the adoption of optimum time of use tariffs it will be necessary to match actual usage and generation profiles (rather than to depend upon estimated synthetic usage profiles as is used today) and this will require a change in settlement regime. Failing to do this will mean that benefits associated with shifting consumption to non-peak times will not be realised as the suppliers will not be able to actively shift their generation to non peak times.

In order to move away from synthetic profiles to half hourly settlement, actual usage data will be required on a half hourly basis. The data privacy policy for smart metering will need to be aligned to allow this, and must allow more frequent capture of readings than is required to support billing.

Finally, the industry structures that determine demand side hierarchy of control and commercial and physical interactions need to be evaluated. This is complex and should not delay the deployment of the core solution. However, work needs to start now to move towards an answer and to give a clear signal that it will happen in the future - without that, it is expected that no one will make the pre-emptive investments that will support rapid commercialisation and scaling once the industry structures are in place.

In gas, reform of the AQ process will create significant operational savings.

Question 15: Are there any other industry processes that will be affected by smart metering and which the programme needs to take into account?

We feel no significant additions are required at this stage but wish to draw attention to a number of points below which are currently not in the programme scope:

- **Interaction with devices outside the Smart Metering system scope** – The scope as defined in the Prospectus excludes devices such as micro-generation devices and auxiliary switches. Whilst the prospectus mentions communications to these devices should be supported we feel greater emphasis is required in this area to ensure the successful uptake of initiatives such as Feed-In Tariffs (FIT) and to maximise the cost-effectiveness of circuit switches already deployed and those that will be deployed in the future.
- **Erroneous Transfer Process if Supplier Registrations are in scope** – Our experience shows that suppliers and customers would like a streamlined resolution process where an erroneous transfers occurs or were pending change of supply needs to be cancelled specifically for electricity (process already exists for the gas market). We believe the addition of this streamlined process will further reduce the inter-supplier dependency and allow the DCC to fairly manage an erroneous transfer process.
- **Managing pre-payment meters** – Misdirected payments are a key challenge within the existing market and additional processes (such as MAP14) have been implemented to overcome the shortcomings of the existing market design. The implementation of the DCC should include solutions that optimise real time payments and improve the management of PAYG energy propositions on behalf of consumers.

Data Privacy and Security

The Accenture Security Practice, with a global footprint, has deep experience in linking security and technology to business goals and high performance.

While data security and privacy require technology, this is only part of the solution and not the most important. Understanding the changing nature of consumer and service data and aligning the solution with the business strategy are decisive for success.

Question 5: Do you agree with our approach for ensuring the end-to-end smart metering system is appropriately secure?

Accenture agrees with the adoption of the principles of security by design and privacy by design, which should be at the base of the smart metering programme as documented in sections 1.3 to 1.5 of the prospectus appendices. These will ensure appropriate end-to-end security within the industry standards for confidentiality, integrity, availability and integrity. The two security approaches are also compliant with Government, ISO-IEC Standards and data privacy regulation in the UK and internationally.

As indicated in section 1.5, a privacy impact assessment is an essential step during service design in order to validate the security protocols of the solution as implemented by the suppliers. A data risk assessment should inform the strength and quality of data link and transmission protocol security across the network.

In order to ensure the commercial long-term viability and success of the smart metering programme, Accenture recommends extending the security concerns further to secure interaction between the end user (domestic or end user) and the infrastructure and service suppliers. While data privacy concerns and standard ISO-based security measures give appropriate cover to the protection of data channels, the current regulatory framework and industry practice does not reflect extensive experience in user interaction and/or access through the utility network. This experience does not exist nor is incipient in the utility/infrastructure sectors but is already of vital importance in other Internet-mediated commercial channels. While data protection and privacy are focused on legal end user rights, these are not sufficient to articulate a security policy for user access to data and user interaction with and through the network.

Consumer Protection

Accenture believes that consumers will be at the heart of the success (or failure) of the smart metering programme due to the critical role that they will play in driving down energy consumption through engaging with demand side management. As such, consumers must be protected and incentivised to reduce energy consumption through measures introduced with the smart metering programme.

Our view is that the Public Interest Case is met when the implementation approach, which meets the following criteria:

- it maximises convenience for consumers during the deployment; the actual experience of changing meters in homes needs to be easy and efficient
- it minimises the ultimate costs to the consumer from the transition
- it continues to enable competition for energy supply and energy services
- it provides a clear path to future value adding services.

Once the smart metering implementation has completed, the regulatory framework must protect the Public Interest Case by ensuring that consumers are sufficiently informed, empowered and incentivised to make choices and behavioural changes necessary to reduce their energy consumption.

Question 5: Do you agree that consumers should be able to obtain consumption information free of charge at a useful level of detail and format? How could this be achieved in practice?

For the smart metering programme to achieve a tangible reduction in energy consumption, it is critical that consumers have access to meaningful data which enables them to change their energy consumption behaviour and measure the results of their actions.

Accenture believes that there should be a mandated minimum obligation for energy suppliers to provide core consumption profiling data and comparison to benchmarks such as national / regional averages or low-consumption targets. Furthermore, Accenture supports the delivery of this data via a wide range of channels to increase the usability of this data (e.g. bills, IHDs, online interfaces, Smartphone apps).

To encourage innovation and consumer choice, consumers should have the freedom to invest their data in whichever provider offers them the best service (either free or charged). To enable this, interface standards must be open yet secure and data must be fully transportable so that consumers may electively share their data with organisations and utilities in addition to their energy provider.

Non-domestic Sector

The non domestic sector is a major user of energy in the UK and as such should be included in any programme that aims to reduce carbon emissions across the UK. The average use of energy by a non domestic user is generally larger than the domestic user and it therefore has the potential to provide significant opportunity for demand side management or load shifting within the UK's energy sector. This sector should therefore be provided with the opportunities for savings that will be offered to the broader group of energy users.

Question 6: To what extent does our proposed approach to the use of DCC for non-domestic customers present any significant potential limitations for smart grids?

Accenture estimates that non-domestic consumption in the profile classes 3 and 4 accounts for approximately 30% of UK electricity consumption. This clearly represents a sizeable level of consumption and network management data. The exclusion of the small non-domestic sector from the DCC would mean, for the purposes of Smart Grid, that separate distributor arrangements would need to be made between non-domestic suppliers and distributors for access to data. This is likely to lead to variations in the implementation and commercial arrangements for this access as well as associated costs.

Inclusion of non-domestic into the DCC would enable the DCC and responsible parties to respond to network management issues in a unified manner, for example when load shedding is required this may be simpler to initiate, manage, and resolve centrally rather than through many disparate systems. Furthermore, security, meter access and data privacy for non-domestic sites would also be governed by the same rigorous mechanisms in place for smart metering.

We believe that the exclusion of non-domestic sites from the DCC effectively supports duplication of infrastructure and processes, as well as associated expenditure, to achieve similar goals between domestic and non-domestic sites. Therefore, we suggest such an approach may not provide the most cost-efficient solution and is contrary to the principle of a central industry hub and industry simplification.

Implementation Strategy

We believe that the programme's plan to roll out smart meters across the UK is challenging.

Smart Meter Rollout

While we understand the technical requirements should be in place in time for the implementation to meet mandated targets, we are not confident that energy suppliers have yet generated sufficient customer interest or gained customer trust. While customer support is not essential for actual meter installations, it will be key to meeting the overarching aims of the programme. Currently we run the risk of meters being installed that will not meet required open standards and make no difference to the way customers use energy.

DCC Set Up

We believe that an interim DCC solution should be realised prior to the full service provider model being in place in 2013. An interim solution that is as close as possible to the permanent solution will ensure that the DCC scope and set-up is appropriately refined as the number of meters increases.

Consumer Engagement and Benefits Realisation

We have conducted a piece of global research called 'Understanding Customer Preferences in Energy Efficiency' and we have found that UK consumers are not yet motivated to reduce their energy consumption. Customers are still motivated by price and tend not to trust their energy provider. If the smart metering roll out is received unfavourably by consumers, it may jeopardise the potential benefits. We have seen this in other markets across the globe, where suppliers have received a negative customer response and smart meters have been labelled 'untrustworthy'. The added complication in the UK is that the consumer market is accustomed to acting on their sentiments. The new infrastructure and DCC role will not benefit from a disproportionate number of customer transfers associated with new meter installations. Customer Engagement and Benefits Realisation will be significantly impacted by the introduction of value-added services, which for some will be the first tangible change brought about by smart metering, and the emergence of new market players. Therefore, in order to realise programme benefits, the enablement of value-added services and accessibility to the likes of Google, Microsoft and appliance manufacturers is fundamental.

Question 3: Do you agree with our proposal for a staged approach to implementation, with the mandated rollout of smart meters starting before the mandated use of DCC for the domestic sector?

We agree with the accelerated roll out schedule. We believe that the programme should start deploying meters as soon as possible and when practical to do so. However, rolling out meters without the required infrastructure in place poses a risk to the long-term success of the deployment. Specifically, the absence of a DCC entity at the beginning of the roll out we believe creates a sufficient risk that the creation of an interim DCC must be made a top priority. We believe it is possible to set up an interim DCC within the next year, to be in place for 2012 when suppliers will be rolling out smart meters in earnest.

Without an interim DCC, we can predict a number of potential consequences:

- competition is undermined as customers cannot get the same smart metering functionality if they switch suppliers
- an ad hoc change of supply process emerges without clear frameworks, leading to errors and customer dissatisfaction
- money is wasted swapping out meters etc. at change of supply

There are a small number of processes associated with change of supply that could also be resolved through a low cost interim DCC.

An early implementation of centralised dual fuel registration should also be considered.

Question 4: Do you have any comments on the risks we have identified for staged implementation and our proposals on how these could best be managed?

We accept that some suppliers have already rolled out some smart meters without a DCC in place and that the risks associated with stranded assets lie with those suppliers.

We understand the need for interoperability to ensure customers have the same choice with a smart meter as they have with a non-smart meter. Therefore, the risks associated with meter roll out ahead of a full DCC service will be considerably reduced if there is a low level of customer switching. On the assumption that customers will be receptive to a smart meter and satisfied with the resulting bills, there is a good chance that the lack of meter interoperability will not impact the successful of the programme, however, we believe that it is not yet reasonable to work on that assumption.

The newly accelerated approach is said to provide 'a basis to draw on early consumer enthusiasm.' We have not found a significant level of consumer enthusiasm and therefore reject this as a justification for accelerating the roll out. Accenture does however support the idea of an early roll out of smart meters prior to the implementation of the DCC.

Furthermore, energy suppliers will need to invest quickly to meet the accelerated roll out, and these costs could be passed on to the customers if competitive market processes and tensions are not in place. This could jeopardise the success of customer adoption, and Ofgem e-serve must provide a framework that enables the market to operate efficiently during this transition period.

We do not agree that there is a risk that suppliers will not be able to procure communications services of sufficient quality, flexibility or in an efficient and economic manner. The services do exist in the market, the challenge will be in providing the appropriate commercial climate for these contracts. The publication of the principles by which existing contracts will be novated to the DCC once it is in existence is a clear first step to enable this.

In summary, any approach to the deployment of smart metering in any geography will introduce risks that need to be managed. It is Accenture's belief that a staged approach is the correct one and that, if managed properly can and will deliver significant benefit to UK PLC.