

# SCOTTISHPOWER ENERGY RETAIL LIMITED RESPONSE TO SMART METERING IMPLEMENTATION PROGRAMME PROSPECTUS

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SEPTEMBER 2010 RESPONSE

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## **EXECUTIVE SUMMARY**

ScottishPower have reviewed the full Prospectus documentation and provided responses to those questions where a response was requested for the September 2010 submission. A subsequent response will be submitted in due course covering those areas requested for October 2010.

We have welcomed the Prospectus and the additional clarity that it provides and are pleased to have the opportunity to further contribute through the relevant expert groups that have been established.

We are pleased to note that our work to develop the detailed design of a simplified and rationalised set of industry processes, based on the adoption of a Central Communications Model, has been of value to you. We look forward to contributing further to the detailed design of the DCC through our participation in the “Data Comms Group” and its associated sub-groups.

Following our detailed review of the Prospectus, we would like to take this opportunity to draw your attention to the following observations:

### **Smart Metering Strategic Design Authority**

Integral to the success of the central Programme is the role and responsibility to ensure that the end to end design requirements are identified, controlled, and coordinated across the various expert communities. We believe that formally establishing a Strategic Smart Metering Design Authority within the Programme governance structure (aligned with the Programme Board and Implementation Coordination Group) will provide the confidence amongst stakeholders of a controlled robust industry design baseline and the application of the necessary rigour to maintain realistic scope and developments costs.

Informed decisions on rollout and implementation phasing can then be agreed in a transparent manner that effectively balances efficient investment, the delivery of benefits and the risks associated with significant industry change and associated customer perceptions.

## **Roll Out**

We welcome Ofgem's proposed approach for a market led deployment of smart meters, however there are a number of key issues during roll out which should be considered:

- 1) the end to end smart metering supply chain and the mass availability of individual components and resources;
- 2) the risks associated with installing large numbers of meters before the DCC is fully established (both technical and commercial) with regard to interoperability and enduring compliance with standards which will be subsequently established;
- 3) the commercial complexities surrounding 'Lead Supplier' responsibilities upon meter installation and the assurance that this model can be effectively managed; and
- 4) how these risks could ultimately impact consumers, either through costs or technical failure; and
- 5) Remaining uncertainty that the method of roll out may be revised at a later date with the introduction of target groups which may compromise the chosen roll out models resulting in increased costs to the consumer.

In relation to possible acceleration of roll out we believe that excessive haste may exacerbate the risks outlined above, place more pressure on the supply chain and increase the scale of commercial and operational risk in the pre-DCC environment. This could risk customers facing greater costs and poor service.

ScottishPower would therefore recommend a full risk assessment of roll out timing to ensure that the delivery of what is a significant and complex programme has minimal effect on consumers across Great Britain.

## **Implementation**

As highlighted above, we recognise Ofgem's ambition to commence roll out as soon as possible. We accept this as an effective approach to ensure that we maximise our opportunity for early completion of roll out while also helping to minimise investment in non-smart meters as soon as possible.

We believe there is a balance to be made between accelerated roll out and the risks associated with the delivery of smart metering beyond the capabilities of the market for a programme of this scale and complexity.

To minimise the Programme risks associated with smart metering implementation, which are detailed in full within our response, we would propose:

- A transparent programme plan;
- A full risk assessment of this approach is conducted which should also consider the impact of accelerated deployment;
- Utilisation of a period of “controlled market start up” linked to a risk based approach where meter installation targets take in to account threats and vulnerabilities identified at that time. We would see this approach continuing until such point that the full DCC solution is live and operating within agreed parameters; and
- Consideration is given to an accelerated agreement on an enduring DCC communications solution which would allow pre-DCC meters to be fully DCC compliant.

We believe this approach will help to ensure successful delivery of the Programme and minimise risks to consumers and the overall Programme / business case.

### **Design Requirements**

We fully support the approach taken by Ofgem with regards to developing design requirement recommendations for both the DCC and Smart Metering system and welcome the opportunity to contribute further to these design requirements by participation in the relevant expert groups.

The scope of DCC services and in particular the inclusion of centralised registration services is broadly supported. We recognise the practical limitations of delivering the full scope of DCC services in a single implementation but we would emphasise that central registration should be included for day one delivery of the DCC. We believe this approach offers the best opportunity to deliver full benefits and will be the catalyst for the process of rationalisation, alignment and simplification within the enduring smart metering industry design.

We are broadly supportive of the functional design requirements for the smart metering system and welcome the approach to deliver technical requirements and identify technical

issues and potential solutions. We would welcome greater certainty on the future networks requirements of the smart metering system but recognise that this may form part of the recommendations put forward by the relevant expert groups.

Security is a key concern for the delivery of the programme and we welcome the establishment of the PSAG. While playing a key role in the establishment of the design requirements for the DCC and Smart Metering system we would welcome the opportunity to participate in the PSAG to ensure consistency of privacy and security requirements across the end to end solution. Suppliers will, in particular, have a key role in the prevention of fraud. As such, we would continue to advocate the establishment of a formalised Smart Metering Design Authority to ensure ongoing alignment of designs across the DCC, Metering System and Security/Privacy Requirements.

### **Consumer Engagement/Protection**

Although we are not required to respond on the full range of consumer issues for the September submission, we feel it is appropriate to reference some key consumer protection issues alongside the required consumer engagement response.

We are supportive of an independent national campaign to support consumer engagement alongside our own consumer engagement activity. While we are supportive of this approach significant further work is required to understand the associated scope and costs of such an approach.

ScottishPower will continue to contribute to the development of a Smart Meter Installation Code of Practice and regard this as an important step to protecting consumers throughout a complex meter roll out programme. We believe this should be a self regulated industry led activity with substantial input from consumer groups and Ofgem.

The risks set out above with regard to phased implementation approach prior to the DCC being established (i.e. cost, security, data protection) pose significant challenge to initially gaining and sustaining consumer engagement – risks which could be exacerbated by unduly accelerated roll out. These risks could damage consumer perception of the Programme, and ultimately, the successful delivery of the benefits.

Consumer engagement/protection must therefore remain a critical consideration when undertaking a detailed risk assessment of the proposals rollout strategies.



As key stakeholders, we will continue to commit appropriate resources to support the successful completion of Phase 1, both in terms of overall governance and in support of the various expert groups and related activities.

While we would expect to provide a further submission in response to the Prospectus ahead of the 28<sup>th</sup> October deadline we would be keen to discuss our response further once you have had a chance to digest it. In the meantime, any questions should be addressed to me (using the details printed on the first page), or to Ross Mackie on 0141 568 3262.

## **INTRODUCTION**

To assure continuity between our September 2010 and subsequent October 2010 submissions, ScottishPower have taken the approach to work through all questions and responses as a single exercise, and where applicable identify dependencies between individual questions.

Whilst we believe that our individual responses will remain aligned beyond the initial September submission, but given the extended period for review and final preparation of our October submission, should any changes be identified we would assume we have the opportunity to communicate these to Ofgem. We are particularly mindful of the various expert group meetings now taking place where new considerations may come to light. ScottishPower therefore feels it is appropriate that any necessary changes to the content of this submission are highlighted and qualified in our October submission in the form of a supporting appendix.

## PROSPECTUS

The following section contains ScottishPower's responses to questions contained within the Smart Metering Implementation Programme's Prospectus dated 27<sup>th</sup> July 2010 specifically requested for the 28<sup>th</sup> September submission.

**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)?**

In ScottishPower's experience certainty and flexibility are essential foundations upon which to base a successful metering rollout strategy - the certainty of retailer's capabilities and resources to deliver smart metering; and the flexibility to meet customer needs and expectations during what is a complex programme rollout. Successful delivery of these key factors, we believe, will ensure a positive experience for customers at the various touch-points of smart metering and provide the necessary platform for customer engagement to realise the enduring benefits of smart meter deployment across Great Britain.

### Code of Practice

ScottishPower support the establishment of a smart metering Code of Practice and we are actively collaborating with other ERA members in its development. We would be happy to explore joint industry branding and would look to work closely with both Ofgem and Consumer Focus in the future.

We believe that the Code's development and maintenance should be self-regulated, allowing closer industry governance and the flexibility to adapt to customer expectations of smart metering. Based on this approach we do not believe that Licence Conditions are necessary.

### Installation guide

We believe there is a need to develop an Installation Guide which is separate to the Smart Metering Code of Practice to ensure that meter installations and associated components comply with DCC requirements (e.g. smart metering system and communications), ensuring high rates of successful installations and the minimisation of return site visits.

### Upfront charging

ScottishPower are in agreement with the prevention of upfront charging for accredited minimum specification smart meters and IHDs, offering the best solution for customers and supporting the aims of the rollout. We also welcome the flexibility that this approach enabling suppliers the choice to offer more advanced meter or IHD technologies for customers.

#### Consistent communication

To support the core objectives of smart meter deployment we believe that a national campaign would be an appropriate way to drive consumer engagement and lessons learnt from Digital rollout are a timely source of lessons learned. The scope of any smart metering campaign(s) we believe should compliment Retailer's individual marketing activity as there will inevitably be innovation and competition around the way in which smart metering is delivered. It is therefore essential that any steps taken to promote consumer engagement are neither detrimental to innovation or competition and the potential delivery of a range of products and services via the smart meter.

<b>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?</b>
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ScottishPower broadly welcome the functional requirements and Ofgem's approach to creating greater clarity and detail through the use of expert groups. Following detailed review of the Functional Requirements Catalogue we would take this opportunity to outline the following areas which we believe require further consideration.

#### ENA Functional requirements

Whilst we recognise that the SRSM requirements are included in the current Functional Requirements Catalogue, we would seek greater clarity around the alignment with the ENA's functional specification, published in April 2010, and the optional requirements set out within such as load limiting, the monitoring of power quality and the cost benefit analysis supporting with last gasp communications.

#### Health and safety

ScottishPower would recommend that health and safety is a consideration throughout the design process. Current 2-year site safety inspection obligations are a key consideration, recognising the smart meter specification and supporting services. Adherence to the

following risk based criteria, we believe, will realise a core element of the central Programme's business case:

- A consistent risk based management approach is adopted consistently across Great Britain;
- Availability of specific functionality within the meter and associated services provided by the DCC – including diagnostics, tamper alerts and other supporting data;
- A phased approach to the change in working practices, allowing a 'proving period' for what is new technology deployed across Great Britain; and
- Extension of the inspection period to at least five years before it's potential removal.

#### Emerging European standards

It is imperative that the expert groups continue to build upon the Functional Requirements Catalogue in order to deliver a set of comprehensive requirements, at a sufficient level of detail to enable the development of technical specifications. This will ensure that delay is not imposed on the critical path to procuring meters, and will serve to reduce the technical and commercial risks which we feel currently exist. The Programme must however take into account emerging European standards in response to Mandate 441 (Smart Metering). In the event that such standards are not completed in the timeframes of smart meter rollout in Great Britain, there is the potential risk that meter manufacturers will be unable to certify smart meters against European compliance standards. We would recommend that there is continued representation within the European smart metering community to ensure wherever possible that the two programmes are aligned and that the emerging European standards are embedded in GB smart metering specifications.

More detailed analysis of our view of the completeness of the Functional Requirements Catalogue can be referenced in our response to Smart Metering Implementation Programme: Design Requirements, Question 4.

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

ScottishPower welcomes the approach outlined by Ofgem with the combination of expert groups and Community of Technical Experts (COTE) providing a robust environment in which detailed technical specification recommendations can be developed.

The challenging timescales from agreeing a technical specification to the procuring of meters and subsequent installing of those meters cannot however go unnoticed. We would welcome any steps which accelerate the availability of the final technical specification, however this should not be to the detriment of either their quality or completeness.

It is essential that there is consensus amongst Stakeholders prior to any recommendations regarding technical specification, which we would expect to extend to obtaining the agreement of all major meter manufacturers. During this process it is also vital that the COTE is utilised as a true community of experts and that 'commercial' objectives are recognised and managed in an appropriate manner.

**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)?**

In the early stages of roll out we would advocate a period of 'controlled market start-up' which would continue until the DCC is fully implemented. This would be undertaken on a risk based approach where the volumes of smart meters installed reflect the threats and vulnerabilities present at that time. This approach will ensure a robust enduring smart metering infrastructure and technologies are successfully implemented in a carefully controlled manner and that customer perceptions are managed at all times. Post-DCC go-live, we believe that a flexible and collaborative review process should be undertaken on an at least an annual basis.

ScottishPower recognise the desire to impose interim completion targets to ensure the roll out is achieved within agreed timescales. However, the loss of flexibility and imposition of rigid targets could impose additional costs to the Programme. Clear definition of what is

deemed a successful smart metering system installation and the specific measures which will be used will be required.

We agree that suppliers should be obliged to take all reasonable steps to install smart meters for customers, although further consideration should be given to more detailed guidelines on what constitutes “reasonable steps”. We believe this should extend to minimum guidelines on the number of visits and letters.

**Question 17: Do you have any comments on our implementation strategy? In particular, do you have any comments on the staged approach, with rollout starting before DCC services are available?**

ScottishPower recognise and support Ofgem and DECC’s desire to adopt a smart metering implementation approach which capitalises on early consumer pull for smart metering and provides the maximum opportunity for early conclusion of roll out.

A phased approach will also provide a strategic roadmap for industry change over a suitable time frame rather than attempting to deliver substantial industry change in a single implementation. Key components of the industry road map we believe to be:

- Swift delivery of a minimal technical interoperability;
- The ability for new functions to be added to the DCC in a controlled manner (e.g. (Supplier) meter registration, data processing and aggregation) to deliver some initial changes to support the customer switching process and to start to rationalise, simplify and align the industry procedures for electricity and gas customers; and
- Ensuring experiences and lessons learned from the initial rollout and operation of Smart Meters are used when designing improvements and extensions to the DCC functionality (including those for meter registration, data processing and aggregation mentioned above).

Although broadly supportive of this approach, ScottishPower has several reservations regarding rollout. Primarily:

- Ensuring that key consumer issues for pre-DCC rollouts including security, data privacy, and installation practices are established;
- Increasing commercial risk created by the desire for accelerated deployment prior to the DCC being established leading to stranding of WAN and meter assets where they are non-compliant with subsequent DCC standards; or secondary site visits being

required as a result of technical issues with either the metering system, or WAN communications module;

- The continued successful operation of a competitive retail market in the interim period prior the DCC being established where interim arrangements do not provide adequate scalable support for the desired volumes of installed meters;
- The industry's ability to support complex products and tariffs pre-DCC; and
- The potential to damage consumer / media perceptions during early phases of volume rollout, should there be any issues which may impact consumer confidence.

We believe that the balance of desire for early deployment and the phasing of the smart metering solution versus the key concerns which we set out above must be fully evaluated before committing to an approach which will ultimately determine the success of the overall smart metering programme in Great Britain. Relevant case studies such as in California (where a change in communications technology was required) serve to demonstrate sufficient need to assess the approach to smart metering implementation in Great Britain and take on board any available lessons learnt from other international deployments.

In light of these considerations and on the basis of our own detailed analysis, ScottishPower recommend that a controlled market start up, driven by a risk based approach, is the most suitable to achieve initial confidence in the technologies and implementation approach, whilst ensuring an optimal customer experience. The adoption of quality gates and controls will enable early issues to be identified and mitigated with volume constraints intrinsically linked to the confidence and performance of the solution being deployed. Whilst this may appear a slower, more cautious approach, we believe that, taking into account the wider aspects of the Programme, this approach would maximise the benefits of smart metering and maintain the confidence and engagement of the consumer.

**Question 18: Do you have any other suggestions on how the rollout could be brought forward? If so, do you have any evidence on how such measures would impact on the time, cost and risk associated with the programme?**

The experiences of smart metering around the World (the majority on-going) offer a rich source of lessons learned and where appropriate should be evaluated as part of the outputs and recommendations of the various expert groups. We believe this should be an enduring



process providing valuable insight and the ability to put in place mitigation plans, which if successful executed, avoid the rollout issues and delays currently being observed elsewhere.

Whilst ScottishPower fully appreciate the Government's desire to achieve the rollout of smart metering in a cost effective and time efficient manner, as a programme we must remain mindful of the risks associated with implementing new technologies and the subsequent outcomes should this implementation be accelerated too aggressively. Ultimately these would lead to a loss of customer confidence, which has been observed to have a detrimental effect in a number of international deployments.

Consideration, we believe, should be given to ensuring that sufficiently robust and effective decision making arrangements are established which avoid unnecessary delays and that the functional and non-functional requirements of the end-to-end smart meter process are defined to a sufficient lower level of detail. Whilst this approach may not offer opportunities to increase the pace of smart metering in the short-term, it may be regarded as an opportunity to safeguard the base Impact Assessment while providing a robust platform to exceed initial rollout targets and maintain consumer confidence.

**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?**

We agree the development of technical specifications is heavily reliant upon the availability of industry expertise, thus imposing a direct dependency on the delivery of technical specifications. ScottishPower supports the approach outlined by Ofgem to develop technical specifications using a combination of expert groups and a Community of Technical Experts (COTE). It is critical that these resources are utilised effectively, ensuring a true community of experts is established in an environment where 'commercial' objectives are identified and managed in an appropriate manner.

Whilst recognising that technical specifications are a key delivery on the critical path of the current central programme plan, we believe that a balance has to be recognised between fit for purpose and the speed of delivery. The risk of inaccurate or insufficiently detailed technical specifications, could directly impact the success of the mass rollout of smart meters in Great Britain and the associated customer perceptions should it be unsuccessful in a way which directly impacts the service they receive. Accelerating the development of

technical specifications beyond the current timetable, we believe, exposes the central Programme to the following potential risks:

- Delivery of sub-optimal specifications that require more work or results in the wrong meter purchase and supporting infrastructure;
- Consumer protection requirements are not fully addressed;
- Security measures that are insufficiently robust for an enduring smart metering infrastructure leading to exposure of weaknesses in the technical design; and
- Compliance with European smart metering standards which are still being defined.

ScottishPower will continue to fully support the Programme and highlight areas where timescales can be reduced in a sensible and commercially appropriate and proactive manner.

**Question 20: Do you have any comments on our proposed governance and management principles or on how they can best be delivered in the context of this programme?**

We fully support the central Programme being managed in accordance with recognised management principles and agree with the need for an Implementation Co-Ordination Group (ICG) at which ScottishPower would expect to have representation. We also believe that there should be at the Consumer Advisory Group (CAG) and the Privacy and Security Group (PSAG) to understand the commercial and technical practicalities of implementation from parties who will be given delivery licence conditions.

ScottishPower believe that consideration must also be given to establishing the following additional cross-cutting activities within the Programme:

- Data quality measures (pre-DCC and during DCC establishment);
- A strategic Design Authority;
- Entry and exit criteria for the completion / commencement of each programme phase;
- Transition procedures from pre-DCC to DCC;
- Business Continuity Management and Disaster Recovery measures;
- Certification/Accreditation (at an individual market participant level); and
- Health and safety.

## STATEMENT OF DESIGN REQUIREMENTS

The following section contains ScottishPower's responses to questions contained within the Smart Metering Implementation Programme's Prospectus Supporting Document 94b/10 Statement of Design Requirements, 27<sup>th</sup> July 2010.

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

ScottishPower recognise the importance of achieving the correct smart metering system and supporting infrastructure design, ensuring that future site visits for the purposes of upgrades or maintenance are kept to a minimum. We believe this is crucial to achieving the overall smart metering business case.

We believe that currently there is no justification for exchangeable HAN hardware, with the risk of technical obsolescence mitigated by achieving the correct requirements with regard to upgradeable firmware. It is ScottishPower's understanding that if the WAN module is either replaced or upgraded it must remain compatible with the existing HAN, and in adopting this fundamental principle, if the HAN software is upgraded, it must remain compatible with the WAN communications module.

At the current time we believe the HAN component of the smart metering system is the least evolved and requires detailed evaluation by the technical community to ensure that the most cost effective and stable technology is selected.

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

ScottishPower believe there are a number of HAN technologies which have the potential to support GB smart metering requirements in the future but we are currently of the opinion that there is not a single fully tested and trialled solution offering the appropriate interoperability standards. The requirements for a suitable HAN include:

- Interoperable devices from different vendors;
- Multi-sourced;

- Low power for battery applications;
- Proven technology already in use;
- Secure; and
- Recognised standard and certification system for devices.

#### Current technologies

Of the currently emerging HAN technologies ZigBee Smart Energy would appear to be a solution to deliver the HAN requirements for GB smart meter rollout. At this time we believe some extra features which will be required and as with all feasible technologies, the capability to overcome the challenges which the GB smart meter programme presents need to be fully tested and the results evaluated in detail. For example, but not limited to:

- Provision of reliable communications in all housing environments in Great Britain; and
- Performance in apartment blocks.

#### Testing and trialling of suitable technologies

ScottishPower recognise that realistically no one solution will be capable to deliver the necessary performance in all environments.

Following the conclusion of an ERA working group in 2008, the subsequent report recommended that some practical testing be organised to back up the findings of the desk top report. To date a full evaluation of technologies has not been performed; a Programme activity which we believe is a critical component of building an installation guide for GB smart metering roll out.

A copy of the ERA report can be referenced using the following link:

[http://www.energy-retail.org.uk/documents/SRSM\\_Local\\_Communications\\_Development\\_v1.pdf](http://www.energy-retail.org.uk/documents/SRSM_Local_Communications_Development_v1.pdf)

**Question 3: How can the costs of switching between different mobile networks be minimised particularly in relation to the use of SIM cards and avoiding the need change out SIMs?**

ScottishPower is generally not in support of large numbers of meters being installed using GSM technology reliant upon a network of specific SIM cards (e.g. 2G; 3G).

Although GSM is currently being used to support smart meter trials, we believe there are alternatives to SIMs which could be adopted in Great Britain to preserve the benefits associated with no site visit requirement upon Change of Supplier and ensure service coverage. The associated CAPEX cost elements of SIM deployment at individual residential homes must be carefully considered when combined with the underlying OPEX requirement related to the management of a substantial SIM estate.

Focus therefore should be on minimising smart deployment using GPRS (in a point to point deployment) and quickly establishing a suitable long term WAN communications solution which supports smart meter and grid requirements. This approach would minimise the number of meters installed where there is an ongoing risk of technology obsolescence over time and where there may be a need to replace communications modules prematurely, to comply with DCC standards yet to be determined.

We do however recognise that GPRS may be part of the enduring smart infrastructure within concentrators rather than at an individual smart meter component level if for example a mesh radio solution was adopted.

**Question 4: Do you believe that the Catalogue is complete and at the required level of detail to develop the technical specification?**

ScottishPower broadly welcomes the contents of the Functional Requirements Catalogue and the utilisation of both expert groups and the community of technical experts to advance smart metering requirements.

The fact that the SRS requirements are included within the catalogue is welcomed but we would seek greater clarity around the alignment with the ENA's specification (April 2010). In particular areas such as load limiting, last gasp communications and data storage.

We would recommend that Health and Safety should be considered throughout the design process, with particular reference to the overall design of the metering system and the health and safety considerations associated with the installation and maintenance of the communications module.

It is imperative that the expert groups and technical expert community continue to build on the Functional Requirements Catalogue in order to deliver a set of complete requirements to a sufficient level of detail to enable development of technical specifications. This is a critical

path activity which allows Retailers to procure meters which offer reduced technical and commercial risks.

It is important that the scope of the Functional Requirements Catalogue covers the end to end smart metering infrastructure, in particular, it should include as a minimum the “essential services” referred to in the “Smart Metering Implementation Programme: Communications Business Model” clearly identifying the services available to market participants.

Whilst the Functional Requirements Catalogue captures many of the ENA's requirements, subsequent cost benefit analysis undertaken (published in April 2010) has raised questions about the cost benefits of certain ENA requirements such as last gasp functionality and power quality. Similarly the additional metering costs of storing data for both Networks and Retailers needs further detailed assessment. It may be important to look for more cost effective ways to deliver these various requirements.

#### Installation and maintenance requirements

The requirement for the smart metering system to support the remote identification of core smart metering system components and new devices should be reflected in the corresponding smart metering services. The DCC needs to provide services which allow for the identification of devices which are connected to the HAN, and critically, to provide secure authentication and authorisation.

The requirement for the smart metering system to be “self-configuring” needs to be fully defined. The various options for installing meters and devices need to be thoroughly evaluated, to determine the most robust, secure and effective install and decommissioning process.

#### Operational requirements

The ability for a meter to be switched to a default mode of operation (e.g. previous meter settings or factory settings) is to be welcomed, however further definition is required on this mode, in particular whether it can be configured, and the events or requests which may trigger it.

#### Display and data storage requirements

We believe the expert group and the Consumer Advisory Group should endeavour to provide recommendations on the level of support for vulnerable and disabled consumers taking into account the associated cost effectiveness of such measures.

The requirement for the smart metering system to provide information in a way that takes account of the requirements of people with disabilities requires further detail.

ScottishPower consider that the scope of the requirement to store 12 months of consumption data needs to be clarified; particularly when considering the need to capture different aspects of consumption data e.g. additional smart grid data requirements and seasonal variances year on year. We would promote an extension in scope of stored consumption data to 15 months to enable a more comparative consumption data set and improve the customer experience.

The ability to clear data from a meter needs careful consideration. In particular, both the data which may be cleared and the circumstances in which it is permitted. Specifically Suppliers may wish on a change of supply to remove historic tariff data and structures whilst consumption data is retained. On a Change of Tenancy there may be a requirement for removal of historic consumption data. Specific rules should be defined to govern these events.

#### Payment and credit requirements

ScottishPower recognises that this is a complex area which requires significant additional technical input. In particular we would welcome additional detail on:

- Operation of the highly complex pre-payment systems;
- Methods of top-up (especially where WAN communications is not available);
- Definition of 'real-time' remotely configured tariffs; and
- The role of the IHD within the end-to-end pre-payment solution.

The configuration of pre-payment settings requires further definition before it can form the basis for a technical specification. The requirements should at a minimum define what data settings may be configured; e.g. friendly credit should refer specifically to non-disconnect periods.

The general statement on support for "real time remotely configurable tariff structures" requires further elaboration as the tariff structures supported by the metering system are critical to enabling appropriate pricing signals to be sent to consumers. The requirement should set out in more detail the supported tariffs.

The requirement for local “top-up” needs to be more fully defined, specifically it should indicate that the smart meter is able to recognise a valid manual top-up, ensure that a “top-up” reference is unique to a meter and that it can only be applied once. The high level requirements for remote pre-payment top-up require a similar level of detail including contingency procedures where communication services are unavailable.

The meters must be capable of storing and then processing future dated requests, e.g. a tariff updates. The meter should also maintain a record of configuration changes.

#### Diagnostics requirements

Whilst the Functional Requirements Catalogue provides an extensive list of diagnostic data; it should be ensured that a comprehensive list of requirements is represented, including clear definition of configurable or non-configurable diagnostic functions.

Achieving this position would enable the lengthening of current two year safety inspection visits (based on a set of pre-defined risk based criteria being achieved), allowing the realisation of associated benefits which are a key element of the central Programme's business case.

#### Security and privacy requirements

Whilst the scope of the document is restricted to the smart metering system, ScottishPower believe that it is critical that security and privacy requirements are defined in terms of the end to end smart metering infrastructure.

The requirements must also ensure that all devices connected to the HAN be it those within the smart metering system or appliance, auxiliary switches or micro generation are also compliant with the same security requirements.

Requirements for robust mechanisms for authentication and authorisation need to be reflected directly in the DCC's smart metering services - this should include devices connecting to the HAN and also third parties attempting to communicate with smart metering systems. The term “strong” should be avoided and detailed definition developed to avoid misinterpretation, e.g. specifying the minimal level of encryption, minimum password lengths, etc. The role of the DCC in managing authorised parties needs to be defined through a set of services, which need to ensure that appropriate levels of access are managed. The DCC should have services which support the management and provision of keys and certificates to these authorised parties.



The security of firmware updates should reference the end to end process of applying and managing firmware updates rather than the smart metering system itself. The firmware process needs to support rollback to previous versions, on an individual and large scale.

#### HAN

Whilst the high level requirement for a defined application profile is welcome, the statement of design requirements needs to set out the high level content for such an application profile. In particular, this would include, for example, support for the transfer of meter data, load control messaging and tariff updates which is in line with the meter functionality. The application profile should also reflect the smart metering services defined later in the catalogue. In addition, the HAN must be capable of supporting generic two-way messages between devices connected to the HAN. The HAN therefore must be capable of supporting innovative services e.g. allowing customers to acknowledge messages on an enhanced IHD and for the acknowledgement to be communicated back to the sender.

The current set of requirements makes limited reference to the interfaces that the HAN must provide for devices that are not part of the smart metering system; such devices include auxiliary switches, appliances and generation meters. The HAN requirements should also include definition of the high level interfaces to these devices.

The requirement to support command, instruction or “alphanumeric” messaging is currently at a very high level of detail and is not replicated in either the meter or IHD requirements. In addition, provision of customer sensitive information requires the ability to configure message priorities and ensure that at the point of delivery messages are only accessible through a secure means (e.g. PIN code or password).

#### IHD

ScottishPower support the minimum information requirements set out in the statement of design requirements. The IHD should only receive messages and information from parties authorised to do so by the DCC, with further restrictions at the point of delivery with regard to message and account information access.

A full response to the specified In-Home Display requirements will be contained within our October submission.

#### Smart Metering System services

The Smart metering services define interactions between the DCC and the meter, and ultimately provide the basis for the services offered by the DCC to authorised parties.

Additional smart metering services need to be defined for:

- Device identification;
- Device registration- including authorisation;
- Management of keys and certificates; and
- Device decommissioning.

### Innovation

Constraining DCC functionality to cater only for core services will hinder innovation within the energy sector. The delivery of DCC services in a manner which does not limit the level of innovation and timescales at which that innovation can be delivered is critical; however we recognise that to preserve the capability of the DCC a balance needs to be maintained between the two service types. In the initial stages of DCC operation we would recommend that innovation services are constrained until there is sufficient confidence that the DCC is performing its core services to the agreed service levels and availability.

Provision of a generic messaging service would enable individual market participants to innovate whilst the DCC maintains focus on the delivery of core services. The generic messaging service would simply act as a “pass-through” service delivering a message from a market participant to the target smart metering system(s). This would mean new device capabilities could be utilised as they are introduced without delaying either the updating of core DCC services or the need for multi-lateral agreement between market participants. Optionally, as new functionality becomes commonly accepted the DCC may choose to implement them as a managed service (similar to core services).

It is important that additional services are established and operated at a lower priority to core services within the DCC service catalogue and that the differential between core and generic messaging services are clearly articulated to all service users.

The defined interactions between the DCC and the smart metering system contained in the catalogue imply additional smart metering system functionality that has not been made explicit in terms of the metering functionality. In particular

- **Service life notification** – smart metering system components must be able to identify when it is due to end its service life and communicate this information
- **Consumer Interaction** – smart metering system must support the communication of consumer interactions

- **Generation Read Data**- the smart metering system needs to provide support for the capture of generation read data
- **Feed in Tariff Updates** – the smart metering system needs to support feed in tariff updates.
- **Load Control** – the smart metering system needs to support the ability to limit supply capacity.

Further details are required for a number of the defined services. However, the high level requirements should set out in more detail the range of configuration options and the types of supported tariffs.

The smart metering services must be capable of being requested with a future date, so that for example a tariff update request may be sent ahead of a price change date.

All smart metering services should have an acknowledgement that the request has been processed successfully by the smart metering system or rejected. This is particularly critical when supply has been disabled, enabled or an load management request has been initiated.

#### Smart Grid requirements

The ENA Smart Meter Requirements defines a number of requirements over and above those contained in the Functional Requirements Catalogue which require further clarification. For example:

- Storage of location information within the meter;
- The ability to calculate and report power factors; and
- Storage of loss of supply information.

All smart grid requirements require detailed evaluation and subsequent recommendation by the relevant expert groups.

#### Non-Functional requirements

The statement of design requirements includes both functional and non-functional requirements for the end to end smart metering architecture (smart metering system and DCC). However, the non-functional requirements identified are not exhaustive. At a minimum requirements need to be fully developed in the following areas:

- Accreditation and Certification;
- Audit and control;
- Availability;

- Backup;
- Capacity;
- Configuration management;
- Deployment;
- Documentation;
- Disaster recovery;
- Efficiency;
- Effectiveness;
- Extensibility;
- Continuity/ Failure management;
- Maintainability;
- Modifiability;
- Operability / usability;
- Performance / response time (performance engineering);
- Platform compatibility;
- Quality (e.g. faults discovered, faults delivered, fault removal efficacy);
- Recovery Objectives;
- Reliability;
- Resilience;
- Resource constraints;
- Robustness;
- Scalability and
- Stability.

**Question 5: Do you agree that the additional functionalities beyond the high-level list of functional requirements are justified on a cost benefit basis?**

ScottishPower agrees in principle with the additional functionalities proposed. To the best of our knowledge the Prospectus functionalities, together with the additional functionalities identified in our response provide the necessary services for an efficient, cost-effective and competitive industry model. We do however recognise a further level of detail is needed for many requirements and expect this will be analysed and subsequent recommendations to be made by the Smart Metering Design Group.

**Question 6: Is there additional or new evidence that should cause those functional requirements that have been included or omitted to be further considered?**

We agree in principle with the latest additions and omissions of requirements with the exceptions already stated in this response. We are pleased the need for interaction with other devices outside of the scope of the Smart Metering system is recognised and understand further definition of these interfaces and supported interactions will be required.

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

ScottishPower agrees that the development and delivery of common technical specifications is essential to provide certainty to Suppliers and manufacturers, and is key to facilitating swift rollout. We agree that the setting up of a Smart Metering Design Group (SMDG), appropriately resourced by market participants, is the appropriate approach to developing the technical specifications in order to deliver the necessary technical certainty and interoperability.

However, whilst it is appropriate the Smart Metering Design Group will make informed recommendations on the technical specifications for the meter, we have concerns regarding the establishment of an enduring WAN communications specification and the timing of its availability.

The Communications Business Model document states that the DCC will provide the WAN specification. However, the process for appointing the DCC licensee and the subsequent procurement of suitable service providers is likely to mean that a defined WAN specification may not be available until at least mid 2013.

This poses significant risk in that the Meter and WAN communications specifications which will be developed against different timescales and in a potentially disconnected manner. This has significant implications in our ability to procure and test end to end solutions that work effectively with the DCC. The approach taken does not appear to consider how to minimise the commercial risks (and costs) associated with meter and WAN comms asset procurement pre-DCC.

ScottishPower would also seek greater clarity around the alignment with the ENA's specification (April 2010) – for example, consideration of load limiting and the cost benefit analysis associated with 'last gasp' communications and data storage. While we recognise that the proposed functional specification incorporates most of the requirements identified by Energy Retailers through the Supplier Requirements for Smart Metering (SRSM) project and Energy Networks via the Energy Networks Strategy Group, we believe that more work should be done in this area, perhaps under the auspices of the SMDG, to ensure that customers are not adversely affected by the programme. This might include identification of lower cost approaches to solving the problems in question.

In addition, the functional requirements do not recognise any need for Smart Meters to retain switching functionality, which is widely used by retailers to manage generation peaks, network capacity, and to allow customers to take advantage of cheaper electricity periods.

ScottishPower agrees with the proposed approach and we will continue to participate in the expert groups and technical community to ensure that the functional requirements are complete including items we believe to be currently absent e.g. Radio teleswitched installations and further consideration of non-functional requirements.

**Question 8: Do you agree it is necessary for the programme to facilitate and provide leadership through the specification development process? Is there a need for an obligation on suppliers to co-operate with this process?**

ScottishPower believes that central co-ordination of the technical design process is essential to ensure that the development of technical specifications results in commercial and technical interoperability while also ensuring a consistent customer experience.

ScottishPower fully supports Ofgems approach where the industry develops the technical specifications and Ofgem provides the appropriate governance and oversight (defined as Option 2). We recognise the importance of governance and oversight to ensure that:

- key deliverables are clearly defined and delivered to agreed timescales;
- a robust methodology is imposed with regards the review, change control; acceptance of specifications; and
- appropriate testing is undertaken to ensure the robustness of the end-to-end smart metering solution (e.g. communications - WAN and HAN, meter and IHD).

ScottishPower believes that this model allows Ofgem to take a leading role to facilitate input from recognised technical expertise within industry. This acknowledges that COTE members are ideally placed to review detailed technical specifications, evaluate and assess designs or design changes and recommend solutions / options to support technical challenges associated with installation of smart metering systems.

ScottishPower believes that the commercial risk associated with potentially delivering a non-interoperable solution which is poorly received by consumers provides enough incentive for Suppliers to participate actively in this process.

**Question 9: Are there any particular technical issues (e.g. associated with the HAN) that could add delay to the timescales?**

ScottishPower believe that HAN technology is the least evolved and subsequently least defined component of the smart metering system. Undertaking detailed assessment of the HAN other areas into account:

- End to end security; and
- Pre-payment solution;

we believe realistically Programme timescales could be delayed.

End to end security

Security remains a critical issue associated with the programme which must be addressed adequately in order to provide confidence in the GB smart meter end to end solution. Trust and confidence in the approach to maintaining data security and consumer privacy are crucial to the success of the programme. Deploying solutions without adequate protections in the short term (especially in the phase between go-live and DCC establishment) could result in long term damage to the smart programme and the delivery of associated smart metering benefits. In a worst case scenario it could lead to security of supply fears presenting far more significant threats and vulnerabilities to the programme than posed by data privacy alone.

ScottishPower believe that the GB deployment of smart meters is unique in global terms, especially with respect to the establishment and promotion of the HAN to facilitate new markets for energy services. The establishment of multiple end points within the HAN

infrastructure creates far more entry points to this environment which all need to be protected.

### Pre-Payment

The anticipated growth in Pre-Payment (PP) or Pay-As-You-Go (PAYG) products using new functions in the smart metering system presents significant technical issues. Smart Metering should enable greater innovation in the PP and PAYG market, ultimately leading to more cost effective delivery and consumer choice. However, ScottishPower recognises the complexity of operating and managing PP systems and infrastructure and we have concerns regarding its early use pre-DCC. The ability to innovate in this area will lead to divergent solutions and methods of operation (e.g. how the IHD is used to make payments). We would therefore recommend greater focus on this area to establish fundamental principles detailing the building blocks of the future PP infrastructure to both ensure a consistent customer experience, security of payments and provide a platform from which retailers can innovate successfully.

### HAN technologies

We believe there to be 'unknowns' surrounding the performance of HAN technologies within a typical Great Britain home.

With little, or no objective data detailing HAN performance relating to particular building types, practical and rigorous testing of HAN technologies will take time to complete but it is an essential programme activity before mass smart meter roll out commences. We would suggest a series of trial projects / tests to:

- Provide evidence that the HAN technology recommended will perform as required in the majority of homes in Great Britain; and
- Enable the development of an 'Installation Code of Practice' for specific house types to assist the installer to choose suitable locations within the home for the equipment and/or the positioning of network repeaters and if necessary select an alternative technology where the primary HAN solution is unlikely to provide a reliable service.

**Question 10: Are there steps that could be taken which would enable the functional requirements and technical specifications to be agreed more quickly than the plan currently assumes?**

It is the view of ScottishPower that the activities required to define functional and technical specifications for the industry should be accorded a level of diligence commensurate with an



investment of this scale, and should not be unnecessarily hastened. While we recognise the need for expedience in endeavouring to meet accelerated targets, this must not be at the expense of the successful delivery of the programme.

Notwithstanding the above, it may facilitate a more advanced delivery schedule, were the programme to consider lessons learnt from similar implementations around the world; of course, comparing the meter specifications employed versus the functional requirements in this instance. At the same time the programme must take care not to sacrifice independent thinking, by allowing itself to be unduly swayed by the input of those seeking to gain individual commercial advantage.

Whilst recognising that functional and technical specifications are a key delivery on the critical path of the current central programme plan, we believe that a balance has to be recognised between fit for purpose and timely delivery. The risk of inaccurate or insufficiently detailed functional and technical specifications, as a result of unduly accelerated timescales, could directly impact the success of the mass rollout of smart meters in the Great Britain and the associated customer perceptions as a result of the smart experience which they receive.

## IMPLEMENTATION STRATEGY

The following section contains ScottishPower's responses to questions contained within the Smart Metering Implementation Programme's Prospectus Supporting Document 94f/10 Implementation Strategy, 27<sup>th</sup> July 2010.

**Question 1: Do you have any comments on our proposed governance and management principles or on how they can best be delivered in the context of this programme?**

Reflecting our response to Prospectus Question 20, ScottishPower fully support the central Programme being managed in accordance with recognised management principles and agree with the need for an Implementation Co-Ordination Group (ICG) at which ScottishPower would expect to have representation. We also believe that there should be industry representation at the Consumer Advisory Group (CAG) and the Privacy and Security Group (PSAG) to ensure these groups understand the commercial and technical practicalities of implementation from parties who will be given delivery licence conditions.

We welcome the establishment of expert groups, associated sub groups and workshops to be held on consumer issues and roll out. In addition to the governance arrangements highlighted we would also suggest the following additions:

1. Specific focus on security and fraud prevention of the end to end smart solution with representation from key delivery partners;
2. The establishment of a Strategic Design Authority to ensure the central programme delivers smart metering in an effective and timely manner;
3. Appropriate governance arrangements to ensure the market is prepared and ready for "go-live" including transparent planning, market readiness assessments for individual service providers and a risk based approach to enable controlled market start-up; and
4. Continued engagement with leading academic institutes that are at the forefront of research into demand side management technologies to ensure that smart metering

provides the correct foundations for the evolution of energy needs and energy management across Great Britain.

To ensure a consistent approach and timely development of the enduring smart metering solution, we believe that a Technical Design Authority should be established to ensure the minimum functional and technical requirements are fully defined and robust solutions developed and subsequently delivered. ScottishPower see this role as a cross-cutting activity across the programme and have again highlighted this requirement in our response to Implementation Strategy, Question 2.

**Question 2: Are there other cross-cutting activities that the programme should undertake and, if so, why?**

ScottishPower agrees with the cross-cutting activities which have been outlined, however further clarification is required as to how these activities, their associated inputs and outputs, timing of their delivery and evaluation will be integrated across what is a complex central programme structure of internal and external stakeholders. For cross-cutting activities to deliver the intended 'added value' and continuity, it is essential that there is a clear understanding amongst stakeholders of their responsibilities and the way in which they interact with the central programme. This is of particular relevance where it is expected that stakeholders will undertake their own risk assessments outside the central programme yet it must be clearly understood how potential programme impacts are articulated, accurately recorded (with the avoidance of duplication), assessed and acted upon in a timely, appropriate and consistent manner.

ScottishPower would suggest the additional cross cutting activities to be considered by the central programme:

- proactive industry data quality initiatives to aid interoperability, the increasing volume rollout of smart metering, DCC establishment and implementation;
- an over-arching Strategic Design Authority;
- health and safety;
- business continuity management / disaster recovery / crisis management arrangements across the end to end smart metering operational model; and

- accreditation measures for all parties and devices interfacing into the end to end smart metering system which can essentially be classed as a critical national infrastructure.

#### Industry Data Quality Initiatives

ScottishPower views the consistency of core industry data as a key component in the successful delivery of smart metering and its enduring operation, in particular to achieve process rationalisation, simplification and the alignment of electricity and gas processes for critical industry processes such as change of supplier. We believe that industry data quality initiatives should focus on:

- Supplier portfolio reconciliation (electricity and gas); and
- Meter location e.g. accurate address and the use of unique property identification numbers, specific meter location(s) and site visit notes including health and safety;

Whilst ScottishPower acknowledges all market participants have a obligation under current market arrangements to ensure the integrity of industry data, in practice it must be acknowledged that consistency across the industry is not fully achieved. On this basis ScottishPower believes that industry data quality initiatives should be co-ordinated by the central programme to ensure a consistent approach benefitting the establishment and operation of the DCC and the interfacing end to end processes.

#### Strategic Design Authority

To ensure the central programme delivers smart metering in an effective and timely manner, we would recommend that an over-arching Strategic Design Authority be established. Its purpose would be to ensure that the various groups, namely the DCG, SMDG, expert groups and technical community remain aligned, working towards a single objective and single understanding of the architecture and technologies which will enable mass smart meter deployment.

We would recommend that this programme function is established by the central programme as quickly as possible as this will be an enabler for efficient delivery of complete, sufficiently detailed and aligned functional and technical specifications.

#### Health and safety

Health and safety should be a key consideration throughout the design process and should extend to both consumers and installation resources.

### Business Continuity Management: Disaster Recovery / Crisis Management

Whilst business continuity management and disaster recovery should be part of an accepted risk management practice within the day to day operations of all market participants, ScottishPower wishes to raise a concern regarding the absence of any specific reference to this discipline in relation to the consideration of any new requirements or changes to existing arrangements at an industry, individual market participant perspective or a combination of both.

Given the introduction of major change across the industry, most notably the introduction of new technologies and the associated threats and vulnerabilities, combined with the introduction of a new market participant to which all existing market participants interface, business continuity reviews must be a mandated activity at local and national levels.

It should be accepted that whilst risks can be managed within the programme the possible unplanned incidents and the potential magnitude are over and above programme delivery. Whilst the industry currently business continuity management measures in place the speed at which unplanned incidents may have to be dealt with across the industry is a new concept and the appropriate hierarchical chain of command put in place to ensure incidents are identified, communicated, responded to and closed down in the appropriate manner at and at the appropriate levels of responsibility.

### Market accreditation / certification

ScottishPower proposes that in addition to technical assurance of the metering system, further clarification is required with regard to the accreditation / certification of smart metering market participants. Given the cutting edge technology with which smart metering will be delivered, and the threats and vulnerabilities associated with this, ScottishPower believes that demonstrated compliance over and above current operating licence obligations will be required. Examples of compliance measures should include:

- Successful interfacing in to the DCC;
- Accreditation criteria and approval processes for devices that interface with the WAN / HAN;
- Industry end to end disaster recovery capability and suitable testing; and
- Demonstration of compliance with security, anti-fraud and data privacy policy.

To achieve these measures an industry accreditation and certification body needs to be established ensuring extended principles are embedded across the central programme.

**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?**

ScottishPower recognise Government's desire for a staged implementation as a way to accelerate deployment of smart metering and conclude full deployment ahead of the previously indicated 2020 date. However, we believe that there are significant risks associated with this kind of approach for such a complex deployment. We would propose a controlled market start-up based on the results of a detailed risk assessment, as outlined in our response to Question 4, taking into consideration the potential impacts to the long term success of the smart programme of making potentially sub-optimal decisions in the short term.

We believe that Ofgem have attempted to cover all requirements in the following statement on page 23 Section 5.4.

*"In our view, any requirements in respect of consumer protection, interoperability, minimum functional requirements and technical specifications should be fully defined in advance of the start of the mandated rollout."*

However, we do not believe this statement covers the risks of an accelerated deployment, particularly in terms of defining a WAN communications standard. Any interim objectives set by the Government we believe must be based on a risk based approach and controlled market start-up. Mitigation against stranded WAN assets and return site visits, as a direct result of communication technology failures due to either ill-defined solutions or insufficient performance testing is necessary to avoid the potential contradiction of the Prospectus statement above.

**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 would propose a detailed risk assessment of this phased implementation approach which should consider the potential impacts to the long term success of the smart programme of making potentially sub-optimal decisions in the short term. Whilst we accept that Ofgem have identified significant risks associated with a staged implementation, we believe that a

detailed risk assessment is necessary to ensure all material risks are identified and thoroughly evaluated prior to any decision on implementation strategy being decided. ScottishPower would propose that the following areas are given further consideration:

- WAN communications;
- The potential for asset stranding (meter and communication);
- The level of centrally co-ordinated end-to-end system testing required;
- Impacts to consumer perception;
- Security and privacy and fraud prevention;
- Commercial risks; and
- Higher capital costs due to a combination of risk and uncertainty (e.g. asset stranding).

The risks identified are substantial but could be managed with appropriate controls placed in the programme. ScottishPower would recommend that a 'controlled market' start up, driven by a risk based approach, is the most suitable to achieve initial confidence in the technologies and implementation approach, whilst ensuring the customer experience is carefully orchestrated. The adoption of quality gates and controls will enable early issues to be identified and mitigated with volume constraints intrinsically linked to the confidence and performance of the solution being deployed. Whilst this may appear to be a slower and more cautious approach, when considering the wider aspects of the programme, we believe this approach will maximise the benefits of smart metering and maintain the confidence and engagement of the consumer.

ScottishPower believes that the most significant of risks are those associated with WAN communications and the end to end testing of the entire smart metering infrastructure. It is important to note that even with a clearly defined meter specification and WAN communications specification, normal best practice would dictate rigorous testing of the end to end solution – particularly given the geographical layout of Great Britain and the acknowledgement that one technology does not 'fit all'. Current Ofgem approach does not allow for this type of testing and presents significant commercial and technology risks. Failure of some, or all, the pre-DCC meters to interoperate with the DCC at go live would likely create significant adverse media and consumer reaction. Subsequently this would create substantial damage to the programme in terms of reputation and ability to deliver the Impact Assessment benefits whilst also significantly escalating costs. While we accept this is a worst case scenario it is not completely inconceivable, and we would draw the

Programme's attention to the recent experiences of deployments such as that of PG&E in California where the rectification of issues has coming at a considerable cost to the Californian ratepayer and brought further smart metering rollout into question.

While a staged implementation is the Government's preferred option and we recognise the benefits identified with this approach, ScottishPower would strongly recommend that a thorough risk assessment is undertaken to fully assess the potential impact and costs of the significant risks to ensure optimal implementation. We would suggest that without appropriate risk mitigation these items are likely to add additional costs to the smart programme. Unduly rapid acceleration of meter deployment (e.g. 90% by 2016) would lead to substantially greater numbers of meters being installed pre-DCC. This would greatly escalate the scale of commercial risks associated with pre-DCC meters and communications infrastructure.

**Question 5: Do you have any other suggestions as to how the rollout could be brought forward, including the work to define technical specifications, which relies on industry input?**

ScottishPower fully supports the government's decision to create industry expert groups to identify functional requirements for the metering system and for the scope and activities of the Data and Communications Company (DCC).

We would recommend that the expert groups may benefit from the experience of other countries defining Metering System requirements, conducting mass rollouts of Advanced or Smart Meters, and in developing centralised industry systems to support the enduring operation of these meters, for example:

- PG&E, California – currently the largest electricity and gas smart meter rollout;
- Ontario Independent Energy System Operator - IESO ( Central Data Collection and Meter Data Management deployment )
- EU OPEN Meter project (WAN, HAN and Meter Technology requirements)
- Victoria, Australia Advanced Metering Rollout (Project Design, Governance and Risk Management)
- Italian Advanced Metering Rollout (ENEL AMR Metering Rollout to 27m customers)

The experience these projects (most of which are ongoing) may provide useful benchmarks to ensure that the lessons already learned elsewhere need not be re-learned by the GB



programme. This could assist the expert groups in their delivery. The Programme must however, remain mindful at all times of the complexities of the GB competitive market and the approach in which consensus can be reached, particularly in respect to individual parties' desires to achieve over and above minimum requirements in pursuit of long-term strategic goals. It is also important to note the differences between the GB Smart Meter rollout, and other Advanced Meter rollouts to date, in respect of:

- The volume of Smart Meters being installed in Great Britain – 47 million;
- The volume of Gas Smart Meters proposed - Advanced Meter rollouts to date have concentrated on electricity meters;
- The requirement for Smart Meters and the related systems (within the DCC) to support retail competition, while sharing key infrastructure (e.g. the WAN communications device and the IHD);
- The requirement for the industry solution to support GB specific regulatory requirements (e.g. the use of Prepayment Meters);
- Demand response; and
- Smart grid aspirations.

It is crucial that the functional and technical requirements for the metering system and the DCC are both completed and agreed at an industry level, and that the wider technical and commercial interoperability arrangements are defined before the mass meter rollout commences.

While the requirement to complete these activities before the start of the mass meter rollout may result in delay moving beyond where the Programme would ideally desire, the completion of these activities are key to the overall success of the Programme's objectives, and should be given due care and consideration.

**Question 6: Do you agree with our planning assumption that a period of six months will be needed between the date when supply licence obligations mandating rollout are implemented and the date when they take effect?**

ScottishPower believe the main challenge in meeting the mid-2012 date with targets is actually linked to the availability of meter specification and communications specifications.

With the meter specification only being finalised in winter 2011 (subject to EU approvals) we would envisage significant pressure on the metering supply chain to deliver sufficient volumes of compliant meters.

To achieve these timescales we believe the following steps will need to have been successfully completed:

- Conclusion of the design, manufacture and test of compliant meters;
- Detailed procurement activity including negotiation on legal requirements, warranties and associated costs (individual procurement processes for each Supplier);
- Asset procure from a limited pool of trusted manufacturers six large and multiple smaller suppliers;
- Establishment of a supply chain which can handle the demands of the GB smart meter programme;
- A sufficiently robust risk based approach to controlled market start-up which avoids the establishment of a 'seller's' market for smart metering system components as Suppliers comply with rollout targets; or
- Conversely a situation where larger retailers may have more access to the supply chain; and
- Appropriate end to end system and integration and penetration testing of meter and communications infrastructure.

Adopting a controlled market start-up approach, with carefully controlled meter installation volumes, we believe would ensure:

- Less pressure on metering system supply chain;
- The ability to test compliant meters in the field and feed back any difficulties identified; and
- Sufficient time to train staff on the installation of new meter type and supporting components.

ScottishPower would prefer to see a series of quality gates throughout 2012 where retailers must prove their readiness to deploy and meet certain pre-conditions before volume caps can be exceeded. This is vital with a new technology – especially one where consumer perception is vital to the Programme's success.

**Question 7: Do you have any comments on the activities, assumptions, timings and dependencies presented in the high-level implementation plan?**

In addition to the matters, highlighted under Question 6, ScottishPower would wish to raise concerns with regard to the timescales between the appointment of the DCC service provider and the mandated use of its services.

ScottishPower believe there are three key issues with the current high-level implementation plan:

1. Meter procurement timescales, reflecting the key activities outlined in our response to Question 6;
2. The timescales between the DCC license being granted and appointment of service providers – we believe this to be highly ambitious given the level of detailed procurement, selection and contract negotiation activity that will be required. And,
3. The timescales between appointment of the successful DCC service provider(s) and mandated use of services taking into account the need for testing and service piloting.

We believe the following areas must be considered in detail by the central Programme when evaluating the deliverables and associated timings of smart metering rollout in Great Britain. A risk based controlled market-start up would contribute to mitigating the points listed below:

- The specification, design, development and production scale-up to meet any mandated targets;
- The six month period between the DCC service provider appointment in 2013 and mandated use of the DCC for domestic customers we believe is highly ambitious. It may be desirable to utilise a phased migration approach to ensure any technical challenges are managed appropriately. ScottishPower would also refer to the additional cross cutting activities previously highlighted and how these could impact the assumed delivery timescales
- Set-up of an over-arching Design Authority;
- proactive industry data quality initiatives to aid interoperability, the increasing volume rollout of smart metering, DCC establishment and implementation;
- business continuity management / disaster recovery / crisis management arrangements across the end to end smart metering operational model; and
- accreditation measures for all parties interfacing into the end to end smart metering process which can essentially be classed as a critical national infrastructure.

In order to ensure this requirement is considered in the scope of establishing the DCC and managed as a migration activity, ScottishPower suggests that migration is added to the proposed programme activities, milestones and assumptions. If it is assumed that a GPRS solution is easy to migrate, what process will the DCC need to establish to manage and quality check migration? If multiple communications technologies have been deployed prior to the DCC being established, a migration process which accommodates multiple technologies will be required.

ScottishPower also believe it would be beneficial for definition of a WAN solution to be completed, or at least well advanced, prior to the procurement and subsequent awarding of the DCC service provider(s) to deliver more certainty around the enduring communication standards.

**Question 8: Do you have any comments on the outputs identified for each of the phases of the programme?**

Phase 1 & Phase 4

- Programme Assurance

Sufficient controls to ensure the appropriate use expert groups with recommendations communicated in an effective and consistent manner.

Further measures which ScottishPower believe should be part of the Programme Assurance framework extending throughout the programme lifecycle include:

- Escalation processes and procedures supporting planning and operational rollout;
- End to end security measures;
- Business Continuity Management / Disaster Recovery review;
- Entry and exit criteria for each stage programme start-up / close down;
- Robust lessons learned framework to ensure programme learnings at each stage are fed back into the Programme rather than an overall evaluation at the 'completion' of smart rollout;
- Predefined metrics for Programme close-down; and
- Process and procedure for the close-down of the central smart metering programme and the control gateways for migration to a fully self-sufficient enduring smart metering operating model for Great Britain.

## Phase 2

- Non-Functional requirements

The statement of design requirements includes both functional and non-functional requirements. However, within the framework of phase 2 outputs reference to the non-functional requirements is absent.

### Consumer Protection

Whilst the document makes reference to additional consumer protection measures being put in place in early in 2011, this is not listed as a deliverable for the phase. Any interim measures need to be outlined in detail, taking into account timescales and associated costs placed on Retailers.

## Phase 3

- Controlled market start-up

In the early stages of roll out we believe a period risk based 'controlled market start-up' should be undertaken until the DCC goes live to ensure that the volume of meters being installed is compatible with the rollout risks that have been identified. This would incorporate volume limitations and quality gates to ensure an enduring smart metering infrastructure and technologies being delivered and that customer perceptions are managed at all times.

We agree that suppliers should be obliged to take all reasonable steps to install smart meters for customers although further consideration should be given to more detailed guidelines on what constitutes reasonable steps, including:

- the number of visits;
  - letters; and
  - how these activities are to be recorded and reported on.
- DCC implementation plan containing but not limited to:
    - Industry data migration approach;
    - Business continuity management / disaster recovery;
    - Roll-back plans;
    - Stakeholder Management plan;
    - Test plan with entry and exit criteria;

- Go / No Go criteria which should not be determined by the successful DCC providers.

## ROLLOUT STRATEGY

The following section contains ScottishPower's responses to questions contained within the Smart Metering Implementation Programme's Prospectus Supporting Document 94g/10 Rollout Strategy, 27<sup>th</sup> July 2010.

**Question 1: Do you believe that the proposed approach provides the right balance between supplier certainty and flexibility to ensure the successful rollout of smart meters? If not, how should this balance be addressed?**

ScottishPower is fully supportive of a market led implementation of smart metering. We believe that the proposed approach strikes an appropriate balance between providing certainty for procurement and planning purposes but also provides flexibility to ensure that suppliers can maximise the effectiveness of their rollout plans once they are underway.

Although ScottishPower are an advocate of the market led model we also recognise substantial technical and commercial risks of installing meters in a pre-DCC environment. We would recommend that in pre-DCC environment we operate to optimise customer pull but within the confines of a "controlled market start up". This period of market start up should recognise the risks associated with pre-DCC deployment of new technology and should require Retailers to adhere to defined quality gates and potentially volume constraints to ensure that the integrity and consumer / media perception of the overall programme is maintained.

Any future reassessment of this market led approach and the subsequent introduction of constraints in the roll out will reduce flexibility and would likely add costs to the programme. Any future interventions should be subject to a full CBA.

Based on our operational experience, certainty and flexibility are the essential building blocks of any successful metering rollout strategy. Certainty is required to enable the appropriate procurement of technical equipment, recruitment and training of installation staff and workload planning and scheduling to ensure that the meters are installed as quickly and cost effectively as possible. Flexibility is needed to allow suppliers and their agents to maximise the use of available resources to effectively manage access rates,

respond to changing market conditions and local initiatives, accommodate existing workloads into their rollout plans and respond to all consumer installation requests.

The market-led approach will enable the correct balance to be struck between these two critical factors. It not only allows suppliers to plan their installations far enough in advance to make the best use of their available resources to meet any mandated rollout targets, it will also ensure that suppliers can respond to consumer pull and effectively harness any individual or community based consumer enthusiasm for smart meters.

The other two approaches outlined in the prospectus documentation (area based co-ordination and local project-based initiatives) would have the potential to provide a similar degree of certainty to allow suppliers to effectively plan their rollout. However, these approaches would likely remove flexibility from the deployment and create significant operational challenges which in turn could escalate costs. These issues include, but are not limited to:

- Logistics & Local Knowledge - Focussing on specific geographic areas creates substantial logistical issues for the movement of field resources, equipment and meter stocks. Traditionally, our meter fixing staff are home based and we aim to minimise travelling times between locations (home, meter stores, meter install locations). This approach also benefits from meter operatives working in areas where they have great local knowledge.
- Ability to support ongoing obligations - including SMC's, new connections, faults and debt related visits. At this time we retain obligations to install, maintain, replace meters for a variety of reasons and this work is generally geographically dispersed and requires a similarly dispersed workforce to accommodate it. ScottishPower anticipate that this type of activity can be managed more effectively if a meter installer resource operates with an ongoing portfolio of work combining ongoing obligations alongside installations driven by customer pull (appointments). We believe this approach maximises the productivity of the workforce while retaining flexibility to meet consumer demand.
- Satisfying Consumer Pull. It should be noted that operating only in specific zones could preclude retailers from meeting demand from "early adopters" or where there is customer pull from outside specific operating zones. This has the potential to be very damaging to the overall programme as the opportunity would be lost for those



“early adopters” to become advocates within their individual social networks for smart metering. It is also likely that any consumers asking for the installation of a smart meter will be highly engaged and ready to take full advantage of the additional information that smart meters will provide them with to develop their own energy saving strategies. Any rollout strategy that lacks the flexibility to allow suppliers to fulfil all of these consumer installation requests would fail to capitalise on the opportunity that these “early adopters” provide to achieve an early delivery of some of the programme’s carbon reduction targets.

- ScottishPower also recognises that the choice of telecoms solution may also play a factor in the method of deployment. The utilisation of any communications infrastructure that requires to be established on a region by region basis may require meter deployment to be aligned to the deployment of the communications solution.

#### Coordination with local groups

Although any centrally controlled or government policy-led deployment of installation resources may potentially have an adverse impact on overall rollout costs, it is important to note that the market-led implementation will not prevent any community or area based strategies from being used. Indeed, our experience as a metering services provider and in implementing similar projects indicates that these are critical components in any metering rollout strategy. However, these elements of the strategy should only be utilised where there is certainty that they will make a significant contribution to the overall efficiency of the Programme objectives. The metering market will ensure that metering service providers undertaking the installation will work with their customers to co-ordinate to the extent that it is economic and efficient to do so. Without allowing for optional participation, it would be very difficult, if not impossible, for this to be determined by a central programme which would have no overall view, or control, of all of the elements of each individual supplier or metering agent’s rollout plans.

#### Other factors impacting market led approach

Whilst we are in agreement with the adoption of a market-led rollout strategy ScottishPower does have some concerns over the timing of the introduction of installation targets and the impact they could have on the success of the rollout.

The relatively short time period in the current programme plan between the completion of the technical specifications, agreement of the installation code of practice and the

introduction of installation targets is likely to lead to significant competition for limited technical and installation resources. This will inevitably lead to an increase in the costs of procuring sufficiently trained resources.

#### Co-ordination with Networks

Retail / Networks – Co-ordinating with multiple groups across multiple geographies could create undue duplication of effort. With this in mind we would recommend a consistent or standardised approach for dealing with network issues in each area or nationally to minimise duplication of effort and costs.

#### Co-ordination between Suppliers

We agree there is no natural incentive for Retailers to collaborate in this manner. However, metering service providers will have an incentive to encourage and manage co-ordination where it is economic and efficient to do so. ScottishPower would advocate a strong focus on the technical design and principles of the metering system in order to minimise the need for further Supplier co-ordination.

#### Lead Supplier

ScottishPower have general concerns regarding the concept of a “lead supplier” and believe it requires further definition. Areas of further clarity we believe include but are not limited to:

- Roles and responsibilities upon a Change of Supplier;
- Roles and responsibilities where electricity and gas services are provided by two separate Suppliers – in particular where a fault is detected; and
- Long-term asset ownership and maintenance – WAN communications module and IHD.

**Question 2: Would the same approach be appropriate for the non-domestic sector as for the domestic sector?**

As stated in our response above to question 1, ScottishPower believes that the market-led rollout strategy will deliver the quickest and most efficient rollout of smart metering. We do not see any reason to deviate from this strategy for the non-domestic sector.

We recognise the higher energy usage in the business sector and the potential to deliver greater carbon savings by prioritising these customers first. However, we believe that competition in the retail SME market place is significant and influenced heavily by “energy brokers”. It is our belief that the delivery of smart meters and their ability to support businesses to reduce their total spend on energy costs will create substantial customer pull and ultimately lead to a faster delivery of meters to this sector.

Due to the prevalence of 1,2 or 3 year contracts in this market we would expect greater emphasis to be placed on smart meter installations when customers came to renew their energy contracts. In fact, we believe that the competitive nature of this market could lead to the installation of smart meter as a minimum competitive service offering at the point of renewal as part of an overall service offering to the consumer.

In summary, the delivery of smart meters to the non-domestic market should be market led as there are sufficient competitive pressures to ensure priority delivery of meters to these consumers.

**Question 3: Is there a case for special arrangements for smaller suppliers?**

ScottishPower believe there should be no exemptions for smaller Retailers, however, we recognise the pressures on the metering meter installer supply chain and Ofgem should be aware of these issues and how they impact all suppliers.

**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?**

ScottishPower remain committed to driving high levels of consumer engagement for smart meter deployment and believe that it is a crucial to the success of the programme – both in terms of the carbon savings but also delivering the implementation at a reasonable cost. To this end ScottishPower would support a national awareness campaign.

Given the fundamental shift and impact that smart metering will have on the energy behaviour of consumers, it will be essential to establish one trusted brand to represent the

industry and objectively educate and inform the public of the substantial change affecting the industry and the consumer. We would expect the scope of the campaign to include a generic brand to drive awareness of smart metering, educate and keep the consumer informed of programme timings. We would envisage a national "Above the Line" campaign to launch the smart metering discussion and a sustained advertising presence to support the national rollout plan.

ScottishPower would seek detailed clarification on how such a programme would be administered and how this activity would be funded.

Retailers will inevitably innovate and compete around smart meter delivery and will be able to offer a range of products and services facilitated by the smart meter. It is essential that any steps taken to promote consumer engagement are not detrimental to innovation or the competitive market and that retailers can integrate individual marketing messages which compliment those messages delivered via a national campaign.

The scope of a national campaign should be highly focussed to ensure a clear uncomplicated message is delivered and should focus on the following key areas :

- Building awareness of the rollout and why its happening
- Awareness of additional equipment that will be left in customers' homes
- Benefits for consumers,
- Benefits for the environment
- Sign posting to information and help schemes
- Set customer expectation of what they will need to do- (provide access, accept installation training, use IHD etc).
- We would envisage SP using joint branding to facilitate access to install meters or on customer comms prior to / during installation.

Parallels have been drawn with the UK Digital TV switchover and lessons should be taken from this process while recognising the differences between the markets. The key differences from the GB smart meter deployment being:

1. The high level of customer pull for transition to the new technology due to the enforced loss of analogue TV signal. And,
2. No requirement for access to the property to effect the removal of the service (analogue signal)

We believe that the useful learning from the digital switchover is the highly focussed, clear and simple messages delivered through a broad range of communication channels.

**Question 5: How should a code of practice on providing customer information and support be developed and what mechanisms should be in place for updating it over time?**

ScottishPower welcome the requirement for a clearly defined code of practice for providing customer information. We believe it should be developed as a self-regulated code in conjunction with Ofgem and Customer Focus.

If the code of practice were developed as a GEMA approved code, we believe this to be a lengthy process and the benefit of flexibility to ensure continued alignment with consumer need, which can be attributed to the approach outlined above, would be removed.

**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?**

ScottishPower would agree that Suppliers should be obliged to take all reasonable steps to install smart meters for customers although further consideration needs to be given to more detailed guidelines on what would constitute reasonable steps e.g. number of visits and letters.

We would welcome further discussion on this matter and in particular would highlight areas for focus including:

- What rights will a consumer have in Great Britain to refuse a smart meter?
- What rights of access will retailers be obligated to pursue to install a smart meter and should this include applying for a warrant of access?

The definition of a fully completed installation should be a core part of the installation Code of Practice. In our opinion a completed installation should be defined as a fully installed smart metering system (applicable to gas, electricity or dual fuel as appropriate) which has been successfully registered with and is communicating with the DCC. This definition should also recognise where customers have opted to refuse an IHD.

**Question 7: Do you think that there is a need for interim targets and, if so, at what frequency should they be set?**

ScottishPower recognise the Government's desire to impose interim completion targets to ensure completion of the roll out within agreed timescales. However, the loss of flexibility and imposition of rigid targets could impose additional costs to the programme.

ScottishPower would be more supportive of a rollout approach based on completion target dates and interim reporting which we believe would still support the Government's desire for clarity and visibility of delivery and would suggest an annual review once the DCC goes live.

In the early stages of roll out we would advocate a risk based approach delivered through controlled market start up which would operate until DCC go live. This would ensure meter installation volumes are based on the risks identified at that time. This approach would also ensure a rigorous degree of system and process testing while monitoring consumer response and ultimately allowing for adjustments to be made before consumer perceptions could be adversely impacted. This process should also incorporate transition processes to the DCC for the pre-DCC meters and associated end to end testing of the DCC environment with both pre-DCC and post-DCC communications technologies.

**Question 8: Do you have any views on the form these targets should take and whether they should apply to all suppliers?**

ScottishPower would recommend that targets are volume based rather than focussed on achieving a percentage completion of the customer base.

This could become a particular issue if a new or existing retailer operates a selective sales strategy to only sell to consumers where a smart meter has been installed, potentially distorting competition.

Targets                      should                      apply                      to                      all                      Suppliers.

**Question 9: What rate of installation of smart meters is achievable and what implications would this have?**

Our current approach to smart meter deployment is defined in four critical stages:

Phase 1 – Controlled market start-up

During this phase we would propose a risk based approach, where volumes of meters installed is reflective of the risks identified. During this phase it is crucial to take every precaution not to damage customer perception before full suite of processes is live in DCC. With this in mind we would also seek to potentially limit complexity of service offerings until DCC processes and its associated controls are in place. This period of time might also reflect the establishment of robust supply chains both for manufacture and installation of meters.

Phase 2 – DCC start-up

In this phase it is likely we will need to migrate pre-DCC meters into the DCC and conduct rigorous testing. In addition, we would recommend running a minimum technology proving period to conduct end to end testing with the DCC communications and processes. Like phase 1, we believe that is necessary to take a risk based approach following a controlled market start-up methodology where volumes of installed and managed by the new DCC service are established based on a detailed risk assessment of the threats and vulnerabilities faced at that time.

Phase 3 – Mass deployment

In this phase the bulk of meter installations should be completed with a strong focus on quality, cost optimisation and consumer engagement. We do not envisage this period commencing until the DCC is live and operating within agreed parameters. This is evidently in conflict with Government ambitions to see up to 90% programme completion by 2016 as in this model we would only have been installing meters in mass deployment volumes for 2 years.

Phase 4 – Residual meter installations

Inevitably at the end of the programme there will be a number of sites that require remedial work (physical works, warrants etc) to complete the programme. We would recommend that a suitable period of time is allocated to allow these works to be completed.

## **Challenges for accelerated roll out**

There are a number of factors which will likely place constraints on the speed of deployment related to the capacity of Metering, IHD and the associated supply chain. With major Suppliers all attempting to access the same narrow metering supply chain it is likely that capacity constraints will emerge. With other Global Smart Meter deployment occurring in parallel we must recognise the pressure on this supply chain on a global basis.

The capacity constraints could emerge in several areas:

- GB procurement activity – ability of meter manufacturers to manage multiple procurement processes with multiple Suppliers (including procurement, commercial negotiation and legal review) This is especially relevant in the context that a meter specification will only be available in the winter of 2011 with an expectation that meters are designed, manufactured, tested and procured by mid-2012.
- Manufacturing (assembly) capacity in the UK – we would question whether current assembly capacity in the UK is capable of handling accelerated roll out volumes.
- Component Availability –pressure on the supply chain for the core metering components including circuit boards, displays and capacitors could be a constraining factor. This could include global constraints on the availability of silicone chips.

## Availability of skilled resource

This is a key consideration in terms of recruiting and training many meter workers (to a higher standard than we do today to accommodate the consumer engagement requirements). The logistics of recruitment and competition for resources will likely drive up costs both in terms of recruitment and training but also purely linked to scarcity of resources pushing up salary costs. The shorter the roll out period the more pressure we place on this constraint.

In order to create a sustainable smart rollout business model the following factors have to be addressed:

- Challenges in recruiting sufficient resources due to the longevity of employment is questionable;
- The potential need to offer higher salaries to compensate for shorter term career commitment;
- The costs associated with recruitment and wind down costs;



- The introduction of an unsustainable cyclical model which will repeat in the future as meters reach the end of their economic life;
- Meter manufacturers costs associated with large scale manufacturing set up to meet peak requirements and subsequent wind down costs when deployment is complete; which
- May lead to inconsistent commercial behaviours regarding the design life of meters.

Ultimately, we believe delivery against the 2020 target to present significant operational and practical challenges. Although the Programme can in all likelihood be delivered more quickly, this should not be done at the consumers expense or result in the creation of an unsustainable long term economic business/employment model.

**Question 10: Do you have any evidence to show that there are benefits or challenges in prioritising particular consumer groups or meter types?**

Retaining certainty and flexibility are important to managing the smart meter programme successfully and in a cost effective manner. As stated previously, introducing constraints to roll out after a period of market led deployment would add more complexity to deployment, potentially dilute density and ultimately increase programme costs.

However, there are specific areas we believe require appropriate prioritisation from the Ofgem programme:

Teleswitched Sites – a substantial electrical load is currently managed under teleswitched conditions (heating customers). This switchable load is designed to protect the electricity network and minimise the need for reinforcement. If the teleswitch signal is to be decommissioned from 2014 then it would seem prudent to prioritise this customer segment.

Pre-Payment – it is widely recognised that smart metering will lead to a growth in PP / PAYG tariffs. It is our belief that this represents one of the most complex areas for delivery within the smart programme and it is imperative to get this solution operating correctly with appropriate controls and consumer protections.

As such we would recommend that pre-payment is not prioritised as an early target group for deployment so as to allow time to get this solution correct across the market. In

addition, it is unlikely that early delivery of smart meters to pre-pay customers will deliver incremental carbon savings.

ScottishPower is likely to provide priority focus and support to customers on our PSR register as we can clearly identify them and any special requirements that they have. A wider prioritisation of Fuel Poor or Vulnerable customers would require significant clarity on the definition of such target groups and the associated methods for identifying those consumers.

ScottishPower is also likely to provide early focus for business customers as this is an area where commercial and regulatory (carbon) objectives overlap strongly.

Finally, as stated previously, it is important to recognise the potential range of telecoms solutions that may be selected by the DCC. This may play a role in defining what geographic locations we can install meters and subsequently our ability to prioritise specific customer groups.

**Question 11: Do you agree with our proposed approach to requiring suppliers to report on progress with the smart meter rollout? What information should suppliers be obliged to report and how frequently?**

ScottishPower is supportive of a progress reporting regime which should be broadly aligned to the points outlined in the targets section of this response.

Retailers cannot carry responsibility for monitoring the benefits of smart metering on consumption levels and it would be technically challenging / costly to report on individual customer behaviour in response to the delivery of smart meters. This would require an accurate baseline of previous consumption prior to smart meter delivery and would also require significant statistical data processing to overlay weather correction and other factors.

We would recommend that overall reporting of GB domestic consumption levels are monitored centrally and on an aggregated regional basis over time, potentially supported by the DCC.

**Question 12: Do you agree that there is already adequate protection in place dealing with onsite security or are there specific aspects that are not adequately addressed?**

We believe that the current regime provides adequate protections for consumers. However, we would suggest that both a national media campaign and code of practice would provide additional customer assurance in this area.

**Question 13: Do you agree with our proposal to require suppliers to develop a code of practice around the installation process? Are there any other aspects that should be included in this code of practice?**

ScottishPower welcome the proposal for a clearly defined code of practice for smart meter installation. We would support its development in a self-regulating environment ensuring engagement between all Suppliers, Ofgem and consumer bodies such as Consumer Focus.

As part of this work we would recommend specific consideration is given to current two year safety inspection obligations, and whether these remain reflective of smart meter functionality and supporting DCC services. We would be in full support of a pragmatic risk based approach under which potential increase in time between site visits could be considered as part of a longer term ambition to remove this obligation.

We would also recommend that a regular review process is established to assess, and where necessary, update the code of practice to ensure its on-going effectiveness as evidence emerges from the increasing scale of smart meter deployments.