CONSULTATION ON THE DESIGN PLAN FOR THE ROLL-OUT OF SMART ELECTRICITY METERS IN NORTHERN IRELAND

12 DECEMBER 2024 – VERSION 1.0

WRITTEN BY GEMSERV

P U B L I C

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TABLE OF CONTENTS

GEMSERV REPSONSE

INTRODUCTION

1. What is your name?

Gemserv

2. What is your email address?

Sarah.Fuller@gemserv.com

3. Are you responding as a consumer or on behalf of an organisation?

(Required)

This is a Gemserv response.

4. Do you agree to be contacted via email by a member of the Department if further detail is needed to better understand your survey response?

Yes, we agree to be contacted and Gemserv would like the opportunity to engage with members of the Department regarding the Consultation on the Design Plan for the Roll-out of Smart Electricity Meters in Northern Ireland.

GUIDING PRINCIPLES

1. Do you agree with the guiding principles for the programme?

(Required) Yes/ No

Please give more detail on the reason for your answer:

The guiding principles are comprehensive and consumer-centric, ensuring that the smart metering programme will be beneficial for all stakeholders. Highlighting consumer protection, data privacy, and the transition to a low-carbon economy aligns well with best practices observed in other jurisdictions.

2. Do you have any further suggestions?

(Required) Yes/No

Please provide suggestions below:

We would suggest the addition of a principle focused on continuous improvement and innovation. This would ensure that the programme remains adaptable to technological advancements and evolving consumer needs.

ROLES AND RESPONSIBILITIES

3. Do you agree with the overarching roles that have been set out for each of the organisations?

(Required) Yes/ No

Please comment:

We believe that a network-led rollout is the most suitable approach for Northern Ireland's smart metering programme. We generally agree with the overarching roles that have been set out, as the top down structure appears well suited for Northern Ireland. While we support the structure, roles and responsibilities outlined in 3.5, we would like to offer the following suggestions for considerations.

a) We suggest that the UR take the leading role in overseeing the development of the smart metering programme. In RoI, the CRU has successfully managed this responsibility, resulting in a streamlined implementation process. We suggest that the DfE consider whether having both the DfE and UR involved might impact efficiency. If this dual oversight model is chosen, it would be beneficial to clearly define discrete responsibilities and the approval path for the programme's duration. While the proposed model aims to be collaborative, which is commendable, the DfE might want to consider potential challenges that could arise from involving multiple entities in the decision-making process. Additionally, it is important to ensure that the UR is empowered to establish the regulatory framework for the rollout, as this expertise ideally resides with the Regulator.
b) The consultation mentions consumer representative organisations nominated by the oversight group in the co-design process. In RoI the CRU's public consultations and broader stakeholder engagement efforts have ensured a wider range of voices are heard. We acknowledge that the Consumer Council will lead on engagement with other organisations, but we encourage DfE to carefully consider how to ensure incorporate a broader range of consumer voices, drawing on lessons learnt from the GB rollout.

4. Are there other organisations not mentioned who will need to be assigned a role?

(Required) Yes/ No

Please provide suggestions below:

We would suggest the involvement of academic institutions and research organisations to provide ongoing analysis and feedback on the programme's impact and effectiveness.

CONSUMER PROTECTION AND ENGAGEMENT

5. Do you agree that consumer representatives should be involved in the design of the requirements for the new systems and procurement as part of a co-design group?

(Required) Yes/ No

Please comment:

Involving consumer representatives, including small business reps, local community organisations and charities that support of vulnerable consumers, ensures that the system meets the needs of end-users, enhancing trust and adoption rates. This approach has been effective in Ireland, where consumer feedback was integral to the design process. This should be demonstrated, be ongoing and kept up to date, to ensure that the consumer is able to make better informed decisions.

The following strategies in the Republic of Ireland helped to build consumer confidence and encourage the adoption of smart meters in Ireland:

1. Public Awareness Campaigns: The CRU and ESB Networks conducted extensive public awareness campaigns to inform consumers about the benefits of smart meters. These campaigns included advertisements, social media outreach, and informational websites. Note, in GB, the Albert Einstein advert was popular as consumers identified with the background and the trust element.
2. Consumer Workshops and Consultations: Workshops and consultations were held to gather consumer feedback and address concerns. This helped tailor the rollout to meet consumer needs and build trust in the new technology. Suggestion: use lived experience of GB and RoI consumers specifically around the energy use of the smart meters, efficiency and money saving.
3. Educational Resources: Detailed guides and FAQs were provided to help consumers understand how to use smart meters and the advantages of time-of-use tariffs. These resources were made available online and through customer service channels. Note: this information needs to clear, concise, simple and in accessible language especially with the use of the In-Home Displays (IHDs) (if these are part of the solution). In GB this has proved to be a challenge as there is negative press if they don't work.
4. Pilot Programmes: Pilot programmes were implemented to test the smart meters and gather data on consumer experiences. Feedback from these pilots was used to refine the rollout strategy.
5. Partnerships with Consumer Advocacy Groups: Collaboration with consumer advocacy groups ensured that the rollout addressed the needs of vulnerable populations and provided targeted support where necessary. It is essential to use targeted support and ensure it is embedded all the way through the process, to take the consumer on the journey with you. Trusted partners can help with the messaging if the consumer has lost trust in the marketplace, where it doesn't all go according to plan.
6. Data Access and Privacy Measures: Efforts were made to ensure consumers could easily access their energy usage data through online portals. Privacy concerns were addressed by implementing strict data protection measures and requiring consumer consent for data sharing. This included the development of a Smart Meter Data Access Code, which aligns with the reference model for EU

countries defining interoperability requirements for access to and exchange of smart metering data by consumers and energy market participants (as set out in the European Commission rules (Directive (EU) 2019/944) on “interoperability requirements and non-discriminatory and transparent procedures” for access to smart metering and consumption data).

6. Do you agree that the language used in this initiative should be reviewed by consumers, and are there titles other than ‘smart metering programme’ that should be considered for the roll-out?

(Required) Yes/No

Please comment:

The success of this programme will depend a lot upon the successful engagement with consumers. Clear and relatable language is crucial for this. The programme doesn't need to overcomplicate the delivery challenge; however, information needs to be clear and the consumer needs to know who is doing what and when and what is in it for them.

Also, considering that this is only focusing on electricity, the language needs to be precise to not raise expectations or confuse with other initiatives in the gas sector. There could be advantage in highlighting the benefits beyond just metering too.

Some alternative suggestions: "Electricity Smart Programme" or "Smart Electricity Initiative".

7. Do you agree that the roll-out needs to be sensitive to the needs of different groups and that the Oversight Group along with consumer representatives should review all aspects of consumer protection to ensure needs are met?

(Required) Yes/ No

Please comment:

Tailoring the roll-out to different consumer groups, including vulnerable populations, is crucial for ensuring equitable access and benefits. It is important to identify at-risk groups during the planning phase to ensure that a one-size-fits-all approach is not applied. This includes considering the needs of digitally excluded individuals and other vulnerable categories. A separate pathway should be established for these consumers to ensure they are not left until the end of the roll-out. Instead, it is essential to prioritise vulnerable groups from the beginning. This approach aligns with best practices in other jurisdictions, ensuring that no group is left behind.

8. Do you agree that some consumers may have limited scope to cut down on energy consumption or use a smart meter?

(Required) Yes/ No

If so, do you have any recommendations to help support these consumers?

Providing targeted support and education on energy efficiency and offering incentives for participation can help mitigate this issue if done right. However, there will be those with specific energy needs, such as those that require regular or around the clock energy for medical equipment that may not be able to reduce consumption or make full use of the benefits of smart meters without additional considerations. While energy efficiency measures will help to reduce consumption, additional considerations might be needed such as home battery units and microgeneration solutions. These of course have a financial consideration.

We would recommend that there is consideration on how the industry, regulated authorities and government can better support medical equipment users with their electricity costs. There would be benefit in assessing the analysis and recommendations of the paper produced by the Retail Energy Code Company (RECCo) to determine how this could be applied to Northern Ireland (https://www.retailenergycode.co.uk/fs/wp-content/uploads/2023/04/Supporting-medical-equipment-users-RECCo.pdf)

9. Do you have any comments on the plan to review the needs of small businesses in order to consider installation and longer-term support for this group?

(Required) Yes No

Please comment:

Small businesses will have unique energy needs and operational constraints. A tailored approach, including flexible installation schedules and dedicated support, will ensure they can fully benefit from smart metering. There could be a benefit in targeting small businesses with the highest consumption; however, care would be needed to ensure that this does not give unfair advantage to competitors.

10. Do you agree that suppliers (working with wider industry) should develop time of use or dynamic tariffs so that consumers can take advantage of lower prices at certain times of the day or when there is an abundance of renewable energy in the system?

(Required) Yes /No

Please comment:

We believe this is essential for the success of the programme. Time-of-use and dynamic tariffs create a win-win situation for both consumers and the energy system. They allow consumers to save money by using electricity during off-peak periods or when renewable energy is abundant, and combined with Supplier apps and in home devices it makes energy and cost savings clear and transparent to the consumer, driving continued efficiencies. For the energy system, these tariffs help balance supply and demand, reduce the need for peak power plants, and promote the integration of renewable energy sources, leading to a cleaner, more sustainable grid. Additionally, they encourage innovation in energy-efficient technologies and smart

grid systems, creating a more flexible, resilient, and a cost-effective energy market for consumers and industry alike.

Looking to our nearest neighbours, both GB and RoI have made progress in introducing TOU tariffs, but the success of these tariffs has been limited so far. Adoption has been slow, and many consumers are not yet fully engaged or aware of how to benefit from these pricing models. Both countries have significant potential to improve the effectiveness of TOU tariffs as they continue to transition towards more renewable-based grids and more sophisticated pricing models.

Part of the reason, if not the main reason, for the slow adoption of ToU and dynamic tariffs is the limited level of data available to suppliers. In the RoI this resulted in MCR1208, which sought to increase the default level of data granularity for all customers with smart meters to include day/night/peak register reads bimonthly.

NI should consider how to address this slow adoption in its own market by focusing on factors such as consumer education, encouraging greater use of smart appliances, infrastructure development (mandatory smart meters), and the ability to link tariffs to real-time renewable energy availability. Access to consumption data for consumers and eligible parties should be part of this consideration.

11. Do you agree that a coordinated plan is needed to allow trusted organisations to deliver consumer information, advice and support at appropriate points throughout the consumer journey?

(Required) Yes /No

Please comment:

A coordinated communication strategy involving trusted organisations will ensure consistent and reliable information reaches consumers, enhancing their understanding and engagement with the programme. Lessons should be learnt from how other jurisdictions (particularly GB, RoI, but also France and Italy) approached this, but the plan should be specific to NI's circumstances. This should include:

1. **Establishing a Central Coordination Body**:
    - Create an organisation or group like Smart Energy GB to lead consumer engagement efforts, ensuring consistent messaging and comprehensive outreach.
2. **Leverage Local Partnerships**:
    - Collaborate with local authorities, community groups, and consumer advocacy organisations to tailor communication strategies to specific communities and vulnerable populations.
3. **Use Multi-Channel Communication**:
    - Implement a multi-channel approach using TV, radio, online platforms, and print media to reach a broad audience. Ensure that information is accessible in various formats to cater to different consumer needs.

4. **Provide Educational Resources and Support**:
    - Offer comprehensive online resources, including guides, FAQs, and video tutorials. Establish dedicated helplines to provide personalised assistance to consumers with questions or concerns about smart meters.
5. **Implement Pilot Programmes**:
    - Conduct pilot programmes to test smart meters and gather consumer feedback before full-scale deployment. Use the feedback to refine the rollout strategy.
6. **Ensure Data Privacy and Security**:
    - Implement strict data privacy measures and educate consumers about how their data will be used. Give consumers control over their data sharing preferences to build trust and address privacy concerns.

DATA MANAGEMENT AND PRIVACY

12. Do you have any comments on our overall approach to data privacy and consumer consent?

(Required) Yes/ No

Yes

Please comment:

Gemserv note that, within its Section 4, the Department have identified several privacy controls related to its smart meter rollout, including consumer awareness, access controls, and ensuring privacy by design, to be considered by its Oversight Group. Suitable privacy controls are central to ensuring consumer trust in the smart metering rollout and public buy-in for access to, and usage of, smart metering data. More specifically, we believe the Department (or its Oversight Group) should consider:

- Legal basis: Explicitly specifying (such as within its access code – here we mean any set of rules for how data accessed is facilitated and managed) in what circumstances consent will be required for accessing and using smart meter data, and where it will permit other legal bases under the UK GDPR to be used. Gemserv note that, within Great Britain, the government's Data Access and Privacy Framework requires organisations (other than licenced entities) to collect consent before accessing half-hourly (interval) consumption data.
- Consumer validation: Introducing requirements (within its access code) for energy consumer's proof of identity to be validated. This should occur when their consent for access to smart meter data is collected, or when consumers wish to access their data from the smart meter database. This is to avoid smart meter data being accessed by a neighbour or for fraudulent purposes. We note that there is currently a control in GB for non-licenced entities to access smart meter data under the Smart Energy Code.

- Privacy obligations: Identifying appropriate obligations on entities to meet the data privacy requirements proposed for its access code. For example, this should include the assignment of ownership for security and privacy by design for the proposed smart meter database. It should also identify the entities (ie. licenced entities or "trusted market participants) that will be responsible for the collection of consent and provision of transparency notices to energy consumers. This should also identify which entity will be the Data Controller for which data.

13. Do you have any comments on the proposal to allow trusted organisations to have access to aggregated and anonymised data for lawful purposes?

(Required) Yes /No

Yes

Please comment:

- Definition of trusted organisations: We note that "trusted market participants" or "trusted organisations" are not defined in the paper. This concept could extend to licenced market entities (energy suppliers and the network operator) but could also involve other entities likely to use data (e.g. price comparison websites, research organisations). With respect to aggregated data, Gemserv also notes that within GB, Ofgem's Data Best Practice guidance, which places an emphasis on ensuring energy data can be shared to increase innovative energy solutions, has outlined that consumption data at an aggregate level should be considered 'Presumed Open'. This means it considers such data as available for **all interested organisations** to use, unless there are specific privacy concerns identified. Similarly, the Department (or its Oversight Group) should identify, which entities should have access to aggregated or anonymised data, as 'trusted organisations'. It should consider both the types of organisations that may have a business need for such data, and balance this against any privacy risks with insufficiently aggregated or anonymised data.

- Aggregated and anonymised data: Gemserv notes that there remain differences in definition of what constitutes 'aggregated' and 'anonymised' data in a smart metering context. This is particularly important since granular (i.e. Interval / half-hourly) smart meter consumption data, connected an MPAN or MPRN (which the ICO has treated as a personal identifier in the case of domestic premises or sole traders) can allow individual behaviour at premises to be identified and profiled. Generally, the ICO has outlined that aggregated information (such as data at a postcode level) poses less of a privacy risk than data held at an individual-level (such as on a specific MPAN/MPRN basis). Gemserv note that several GB DNOs have considered that consumption data is no longer personal if aggregated to a feeder station covering five (5) or more MPANs, although no official guidance has been issued by Ofgem on this. The Department (or its Oversight Group) should decide on what it considers an appropriate level of anonymisation, given the granularity of smart metering data to be

made available. It should also develop appropriate guidance on aggregation and anonymisation of smart meter data.

14. Are there any other specific organisations who should be included to give advice to the data management workstream?

(Required) Yes/ No

Please comment:

Gemserv believe that privacy and security expertise, especially with an understanding of smart metering, is essential to ensure the development of the Department's proposed smart meter database, and identify controls needed for secure access to data and appropriate mechanisms for consumer consent processes. The Department (or its Oversight Group) should consider including cybersecurity experts and data privacy and ethics specialists in smart metering to ensure comprehensive oversight of data management practices.

Gemserv would also suggest that a sample of "trusted market participants" are invited to advise on their data needs, including the format, scale and types of smart meter data they wish to access. This should include organisations in other jurisdictions interested in operating in Northern Ireland, especially those based in Ireland and GB – such as price comparison websites, data brokers and research organisations**.**

FUNCTIONAL AND TECHNICAL REQUIREMENTS

15. Do you agree that the Oversight Group should develop a list of functional requirements for the meters and data systems to be discussed with industry and consumer representatives?

(Required) Yes / No

Please comment:

We believe that industry is best placed to develop a list of functional requirements for the meters and data systems, through a dedicated technical subgroup. We believe that this subgroup should be led by NIE Networks in collaboration with Suppliers. The outputs should be shared, subject to impact assessment and discussion with other relevant subgroups (such as the CDA, who consider market design changes and the Consumer subgroup), with final approval by the designated Oversight Group.

16. Can you suggest any improvements to the current payment system for both credit and prepayment meters that should be requirements for the procurement process?

(Required) Yes/ No

Please comment:

For Credit Meters

1. **Smart Meter Integration**:
    - With the implementation of smart meters that provide real-time usage data and automatic meter readings, integrating with Supplier billing systems should improve billing accuracy and help consumers manage their energy usage more effectively. Consumers should then be able monitor their consumption in real-time, leading to better energy management and reduced bills.
2. **Flexible Payment Plans**:
    - Suppliers should offer flexible payment plans that allow consumers to spread the cost of their energy bills over a longer period, reducing the risk of debt accumulation. This would help consumers manage their finances more effectively and avoid large, unexpected bills.
3. **Enhanced Customer Support**:
    - The provision of enhanced customer support to help consumers understand their bills, resolve discrepancies, and manage their payments could result in improved customer satisfaction and reduced financial stress for consumers.

For Prepayment Meters

1. **Smart Prepayment Meters**:
    - The replacement of traditional prepayment meters with smart prepayment meters that offer real-time usage data and remote top-up capabilities will allow consumers to monitor their usage and top up their meters remotely, reducing the risk of disconnection and improving energy management.
2. **Remote Top-Up Options**:
    - Expanding remote top-up options, such as mobile apps and online platforms, should make it easier for consumers to add credit to their meters. This would increase convenience and accessibility for consumers, reducing the need for physical top-up cards. However, there also needs to be consideration for those with no access to smart phones and computers.
3. **Tariff Reforms**:
    - Ensuring prepayment meter users have access to the same competitive tariffs and discounts as credit meter users would reduce energy costs for prepayment meter users, alleviating financial pressure on low-income households.
4. **Consumer Protection Measures**:
    - Implementing consumer protection measures to prevent automatic disconnection for vulnerable consumers and provide emergency credit options would enhance support for vulnerable consumers, ensuring they have continuous access to energy.

17. Commercial mobile networks, private radio frequency, power line communication and Broadband will be explored as potential communications methods to transfer smart meter data. Do you agree these are the main methods and are you aware of any other ways this can be done?

(Required) Yes/ No

Please give further detail:

These methods are widely used and proven effective. However, we would like to highlight the following considerations to help you evaluate the suitability of each communication method for smart meter data transfer in Northern Ireland and based on our experience in GB and in other jurisdictions:

- **Commercial Mobile Networks**:
    - This method is suitable for systems using licensed spectrum and accessible to the public. However, 2G and 3G networks are being phased out, making them non-viable options. LTE (4G) is acceptable but requires good coverage to function effectively. It offers ample bandwidth for data transfer. If bandwidth is less critical, Narrowband Internet of Things (NB-IoT) is a strong candidate due to its ability to connect even under challenging RF conditions.
- **Private Radio Frequency**:
    - This involves a dedicated network not accessible to the general public. For example, the Arqiva/Sensus RF system used for energy smart metering in GB (North area) and by Thames Water for smart water metering. Implementing such systems in Northern Ireland would require a full rollout, making them expensive. All meter manufacturers would need to integrate the radio into their meters, potentially increasing costs due to integration, conformance testing, and licensing. The overall costs and maintenance might render these solutions too costly.
- **Power Line Communication (PLC)**:
    - This technology is viable for covering the last mile from the substation to the meter. There are two main PLC implementations: a narrowband version (with longer range) and a higher data rate version operating at higher frequencies (potentially range-limited). Implementing the link from the substation to the central system could be costly.
- **Broadband**:
    - This method would likely use the consumer's ADSL or fibre connection, probably via a WiFi connection to the router. Issues may arise if the premises lack such a data connection or in multi-occupancy buildings with meters in a metering cupboard. The connection could be subject to restrictions by the consumer or others, potentially hindering metering data communications. Meters might need an additional communications hub to connect to broadband services.
- **Other Communication Methods**:

- These typically use unlicensed spectrum, such as LoRaWAN (Long Range Wide Area Network), Sigfox, or similar systems. The data rate on these systems is limited and may not meet the needs of a prepayment system. Building and maintaining the infrastructure for these systems could be costly for full coverage. The unlicensed spectrum is shared with other users, so there is no guarantee of reliable data communications at all times. These solutions are not ideal for transferring time-critical data.
- In GB, the Data Communications Company (DCC) employs a technology known as 'Mesh technology.' This system connects Communications Hubs (CHs) in locations without cellular coverage to other CHs that do have cellular coverage. Operating in the unlicensed spectrum, this technology requires extensive planning. Similarly, the Arqiva network uses a comparable system referred to as 'buddy mode' (although this may not be its official name). However, it is important to note that its implementation demands significant planning effort.

Recommendation: Based on our experience in GB and other jurisdictions, the first choice should be a cellular system using 4G and/or NB-IoT. This approach outsources all maintenance efforts and utilises standard communication protocols. The second choice should be a PLC system, which requires careful implementation and maintenance planning to ensure reliable communications. We would strongly recommend that all other options are not considered due to the reasons set out above.

ROLL-OUT STRATEGY

18. Do you agree with the strategic goal that all consumers should have smart meters?

(Required) Yes/ No

Please give reasons:

Universal smart meter adoption ensures that all consumers can benefit from the advantages of smart metering, such as better energy management and cost savings. This goal aligns with successful strategies in other jurisdictions.

19. Do you have any comments on which groups of consumers might be prioritised at the outset to receive a smart meter and which groups should wait for longer or which approach might be most suitable?

(Required) Yes/ No

Please comment:

We would recommend prioritising vulnerable consumers, high energy users, and early adopters of low-carbon technologies. This approach ensures that those who can benefit the most receive smart meters first, promoting equity and efficiency. However, there needs to be practical considerations as part of the rollout

too, such as ensuring efficiencies by installing street by street and where there may be network range limitations within buildings that may need alternative solutions.

20. Would the same approach be appropriate for the non-domestic sector as for the domestic sector?

(Required) Yes/ No

Please give reasons:

Yes. However, there needs to be consideration of the specific needs of different types of businesses and tailor the roll-out strategy accordingly. For example, small businesses may require more flexible installation schedules.

21. Do you agree that the Oversight Group should set targets and provide reporting at various stages? Would you like to comment or provide information which may be relevant in relation to reporting or setting out a roadmap?

(Required) Yes/ No

Please comment:

Setting clear targets and regular reporting ensures transparency and accountability, helping to track progress and address any issues promptly. A plain language briefing note reporting on progress and published on the landing page, or clearly labelled from the landing page, (of a designated website) would be beneficial to provide transparency on the progress to consumers, media and interested stakeholders.

To find out more please contact:

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