



Commission for Energy Regulation
An Coimisiún um Rialáil Fuinnimh

CER National Smart Metering Programme

Call for Evidence on Wider Programme Costs and Benefits

Consultation Paper

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Regulating Water, Energy and Energy Safety in the Public Interest

Executive Summary



The National Smart Metering Programme (NSMP) is a plan for transforming how electricity and gas retail markets operate. It involves the roll out by ESB Networks and Gas Networks Ireland of new meters, a communications network to support them, and investment in new IT systems by ESBN, GNI and Electricity and Gas Suppliers. This investment in new infrastructure will in turn provide consumers with more accurate bills, better and more accessible information about energy use, and access to new tariffs and services. It will provide many new opportunities to use energy more efficiently, and reduce costs.

During 2017, key decisions will be made about the NSMP. Most significantly, the results of a Cost Benefit Analysis will determine the CER's decision upon the scope, scale and timing of the NSMP. Specific refinements to the present scope may be examined if the current scope (under the High Level Design¹) is found to be uneconomic. The CER has identified a number of elements of scope for the NSMP, outlined in this paper that warrant further scrutiny in terms of their contribution to overall value-for-money for consumers. Based on the evidence obtained the CER may remove these elements of scope if the existing High Level Design is demonstrated to be uneconomic. This is a "live" issue because in early 2017 ESBN plans to begin the process of seeking and evaluating tenders for the communications infrastructure to deliver the NSMP. This will involve significant cost commitments on behalf of consumers.

The CER as the responsible body for the NSMP is keen to ensure that these important, enabling decisions, with long-term implications for electricity and gas consumers in Ireland, are informed by the best available evidence. A key foundation of this evidence base is the CER's own Cost-Benefit Analysis (CBA) model. This model has been developed and refined over time, and results have been published (2010) and updated (2014) as the NSMP has progressed. A second update of the CBA model is currently in train, based on new and updated cost information from market participants and revised information about likely implementation timescales.

The purpose of this document is to invite submissions to strengthen the wider evidence base available to the CER in its assessment of different scope options. This is separate to the CBA and will be used alongside the insights provided by the CBA modelling to strengthen our decision making. The evidence from this document and

¹ <http://www.cer.ie/docs/000699/CER14046%20High%20Level%20Design.pdf>

CBA modelling may allow the CER in early 2017 to update (and narrow down) the variations in scope being considered if the High-Level Design is demonstrated to be uneconomic.

Responses are invited by 06 January 2016.

Public / Customer Impact Statement

The National Smart Metering Programme is a plan for transforming how electricity and gas retail markets operate. The new systems and processes will provide consumers with more accurate bills, better and more accessible information about energy use, and access to new tariffs and services.

The programme will involve the nation-wide replacement of over two million electricity meters and approximately seven hundred thousand gas meters. This will affect all members of society. As such, the rollout phase will need to be appropriately scoped to ensure it delivers best value for money. This paper seeks submissions to strengthen the wider evidence base on the qualitative benefits and relevant considerations on potential scope options that are not included in the CBA. This will ensure that the programme proceeds in a manner that provides the most value to society as whole, based upon the best available evidence.

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Glossary of Terms and Abbreviations

Abbreviation or Term	Definition or Meaning
CAPEX	Capital Expenditure
CBA	Cost Benefit Analysis
CBT	Consumer Behaviour Trail
CDSP	Communications and data services provider
CER	Commission for Energy Regulation
HAN	Home Area Network
HLD	High Level Design
IHD	In-Home Display
MIHC	Mandated In-Home Channel
NSMP	National Smart Metering Programme
SEM	Single Electricity Market

SME	Small and Medium Sized Enterprises
TOU	Time of Use

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1. Introduction

Background

1.1.1 The NSMP

The CER's decision to rollout electricity and gas smart meters for all residential and smaller business consumers was announced in July 2012. This decision was made following comprehensive consumer behaviour and technology trials and cost-benefit analyses, and follows the direction across Europe towards transiting to a wide scale Smart Meter rollout.

The CER concluded the High Level Design for the NSMP in October 2014. It has the following features:

- Minimal functionality performed on the smart meter
- Back office systems perform the majority of data processing and hold 'Master' versions of key data sets
- The Automated Meter Infrastructure does not carry Time of Use bands, tariff rates or calorific value related to information messages. Suppliers will provide Time of Use band and tariff rate information to consumers via non-Automated Meter Infrastructure channels to enable the cost calculation of real-time consumption
- Historical consumptions and the cost of that consumption is presented to consumers via non-automated meter infrastructure channels under supplier control (e.g. Online, Apps, Mobile phones)
- The collection and provision of half hourly interval consumption data by networks to suppliers is supported on a daily basis with facilitation of provision to third parties
- Real-time consumption data is provided over the Utility Home Area Network to the Home, where technically feasible
- Pay-as-you-go balance is provided to consumers via non-automated meter infrastructure channels under supplier control (e.g. Online, Apps, Mobile phones)

In April 2016 the CER published decisions on a suite of policy issues required to give practical effect to High Level Design. Specifically:

- Rolling out New Services: Time of Use Tariffs
- Rolling out New Services: Smart Pay-As-You-Go
- Regulating the Transition Activities of Market Participants
- Empowering and Protecting Consumers

Since then, ESNB and GNI have been developing their detailed plans for procuring, testing and rolling out the supporting infrastructure and IT system change. This process has been co-ordinated by the CER, engaging with other stakeholders where necessary.

1.1.2 The Business Case

The 2012 Decision to proceed with the NSMP was informed by the findings of a Cost Benefit Analysis (CBA). The CBA used a model developed by the CER and populated with data provided by market participants. In 2012, the CER estimated net benefits from the NSMP to be €229 million. This was based on Customer Behaviour and Technology Trials and informed the decision to proceed with the rollout of electricity and gas. The results of the CBA were considered alongside other, less quantifiable costs and benefits (such as the ability to leverage smart grid benefits) – alongside the views of stakeholders.

The CBA was re-run in 2014 using updated data from market participants, and updated assumptions. The net benefits of the NSMP were found to be in the range of -€140 million to €127 million, with the central case being -€54 million. On balance, this was found to represent a “broadly neutral” CBA.

The CER is currently undertaking a further update of its CBA modelling. It has requested revised data from market participants, and is updating its modelling assumptions to align with the policy decisions made since 2014. It is also modelling the potential impact of changes to delivery timelines consequent to the more detailed planning undertaken by ESNB and GNI.

1.1.3 The Process to Confirm the Scope of the NSMP

In July 2016, ESNB initiated its procurement of a communications and data services provider (CDSP) to support delivery of the NSMP. In this first step in implementing the NSMP, ESNB clarified to prospective bidders that the procurement is contingent on a decision by the CER to confirm the scope of services to be procured. Further, that there is provision for a decision by the CER that procurement would not proceed (a “no go”).

The CER process to confirm the scope of the NSMP is being progressed in stages. The first stage of work is information gathering. This is to update and strengthen the analysis of the costs and benefits associated with different potential choices of scope. To this end, CER is: (i) gathering updated data from industry stakeholders on costs and benefits, and (ii) publishing this “Call for Evidence” document.

The second stage of work is interpreting the new information. The CER will update its CBA modelling, and analyse the CBA results alongside any additional information generated through this Call for Evidence. The purpose of this analysis is to form a view on which scope variant is likely to represent the best value alternative to the High-Level Design. This contingency will only be considered if ESNB is unable to procure a CDSP for the High-Level Design at a cost that in CER’s view represents value-for-money for consumers.

The third stage of work is articulating the outcome of the process. The CER will publish an update of its analysis of the costs and benefits of different scope options, in early 2017. If the analysis supports a clear ranking of competing scope variants, then the CER may also include a decision to narrow down optionality for ESNB to carry through its CDSP procurement. The rationale for this step would be to reduce uncertainty for prospective bidders on the role of CDSP, which in turn has the potential to reduce costs for consumers.

The final stage of work is for ESNB to run its procurement process, and for the CER to await advice from ESNB on the likely costs of procuring CDSP services consistent with delivering the High-Level Design. The CER will then assess whether these costs represent value-for-money for consumers – and instruct ESNB to proceed (or not), accordingly. If the decision is not to proceed with the High-Level Design, then the same exercise will be undertaken for the option(s) that ESNB has carried through its procurement.

1.1.4 Related Documents

Information on the CER's role and relevant legislation can be found on the CER's website at www.cer.ie

1.1.5 Purpose of Paper

The purpose of this document is to invite submissions to strengthen the wider evidence base available to the CER in its assessment of different scope options from the High-Level Design. In this document, the CER seeks evidence on the qualitative benefits and relevant considerations on potential scope options that are not included in the CBA. The qualitative findings from this document alongside the quantitative outputs from CBA modelling will inform the CER's decision around the final scope of the NSMP. This combined evidence base may allow the CER in early 2017 to update (and narrow down) the variations in scope being considered if the High-Level Design is demonstrated to be uneconomic.

1.1.6 Structure of Paper

CER invites all interested parties: members of the public, the energy industry, technology providers, consumers, and consumer representatives to comment on the questions raised in this consultation paper by close of business on 06 January 2017.

Questions are included in at the end of each section of 'Potential NSMP Scope Changes', and the complete set of questions is also reproduced in the Summary of Proposals.

As CER will publish responses in full on the CER website, respondents should include any confidential information in a separate Annex, stating the rationale for not publishing this part of their comments. Please forward submissions on this paper (preferably in electronic format) to:

**Smart Metering Programme Office
Commission for Energy Regulation
The Exchange,
Belgard Square North,
Tallaght,
Dublin 24**

E-mail: smartmetering@cer.ie

2 Potential NSMP Scope Changes

Introduction

This section identifies the elements of scope for the NSMP that the CER has identified as warranting further scrutiny in terms of their contribution to overall value-for-money for consumers. These alternative scope options will only be pursued if the existing High Level Design is demonstrated to be uneconomic.

Each of the sub-sections below has the following structure. First, a description of the scope element under consideration – including the nature of the costs and benefits associated with its inclusion. Second, a summary of how these costs and benefits are quantified in the CER’s modelling, and what (if any) exclusions or ranges of uncertainty might be present. Third, an invitation to submit evidence to be considered by the CER alongside the CBA modelling in its assessment of the relative merits of different changes to the scope of the NSMP.

The three contingency plans that the CER is inviting views on are to scale back the scope of the High-Level Design by excluding the following mandatory aspects:

- The provision by ESNB of an In-Home Channel for communicating near real-time information derived from the electricity or gas meter;
- The rollout of smart metering services to gas consumers; and
- The rollout of smart metering services to Small and Medium-Size Enterprises (SMEs).

If these elements are excluded from the NSMP, then the rollout of smart services will be constrained by individual commercial decisions within the context of competitive retail markets. This may result in the services not being provided, or being provided to some consumer segments only based on a “willingness-to-pay”, e.g. for devices other than the meter installed in a customer’s premises.

For the avoidance of doubt, these are the only three options the CER is presently considering for scaling back the scope of the NSMP if the existing High Level Design is demonstrated to be uneconomic. It is not inviting views on other options.

An In-Home Channel for “near real-time” Communication

This section discusses the role of an In-Home Channel for communication in the NSMP High Level Design, and how its impacts are modelled presently.

2.1.1 Description

The NSMP High Level Design includes an In-Home Channel, which allows consumers to access “near real-time” consumption data in the home. The In-Home Channel makes this data from the smart meter available over a Home Area Network, and allows consumers to access it via a Networks or Supplier-provided device or via a Supplier-provided app.

In the absence of an In-Home Channel, near real-time consumption information from the meter will not be available. This implies two alternative routes for customers to receive granular information about recent consumption. First, by buying a supplementary “clip-on” device to provide near real-time information². Second, through use of the data collected and held centrally by ESNB. Under the High-Level Design, data from each smart meter will be retrieved for the end of every day, and made available to a customer’s Supplier early the following day. This is referred to as D+1 data. An information service using such data could be provided to customers by the Supplier or other third parties through, for example, an app and/or a website – and this would not require an In-Home Channel³.

The costs and benefits associated with the In-Home Channel are outlined in the sections below. This includes benefits and costs that are included in the CBA, and wider advantages and barriers outside the scope of the CBA.

2.1.2 Modelled costs and benefits

The provision of “near real-time” data in the home via an In-Home Channel can give consumers better visibility of their consumption, enabling them to reduce their consumption, and, in conjunction with Time-of-Use tariffs, shift their consumption to off-peak times. This has associated benefits in the CBA model, including cost reductions for consumers for electricity and gas consumption. The absence of “near real-time” data in the home may therefore limit the benefit associated with peak

² Such devices are readily available commercially.

³ For example, if a customer looked at a D+1-based app at 17:14 it might provide the following type of message: “Between 17:00 and 17:30 yesterday your electricity consumption cost €X.XX”.

shifting and energy consumption reduction – if the alternative flow of information, e.g. using D+1 data, is less effective.

The In-Home Channel requires a Home Area Network (HAN) communications module to be included on the deployed smart meters. In addition to this, consumers will be provided with devices and apps that allow them to access their near real-time consumption data. In the absence of an In-Home Channel, the HAN module will not be included and devices will not be deployed to consumers. The costs associated with these will therefore not be incurred in this case. Consumers will instead be provided with an information service, e.g. via an app or website, derived from the available D+1 data.

There are different types of costs included in the CBA that are impacted directly or indirectly to the presence of an In-Home Channel. These are described in Table 1 below:

Table 1: In-Home Channel – CBA cost types impacted

Category	Cost item
ESBN HAN costs	HAN module cost per smart meter installation
	Cost for HAN configuration
	Cost of revisits due to HAN failure
	HAN ongoing support costs
ESBN MIHD costs	MIHD unit and installation costs
	MIHD systems and back office cost
	MIHD consumer support costs
Supplier app/device costs⁴	Deployment of supplier app with real time data
	Ongoing support costs for supplier app with real time data

⁴ In the absence of real time data, suppliers will still provide consumption feedback through an app, but this will be based on D+1 data. The associated costs for the app are included in the CBA.

	<p>Supplier device unit and installations costs</p> <p>Supplier device ongoing support costs</p> <p>Cost of replacing MIHD with supplier devices after end of ESBN support period</p>
Energy costs for devices	Energy costs for MIHD and supplier device
Gas meter integration	<p>Cost for integration of MIHD with gas meter</p> <p>Cost of re-integration of gas meter with HAN following a fault</p>
Consumer time costs	Time spent learning about the IHD/supplier app by consumers

Similarly, there are different types of benefits included in the CBA that are impacted by the presence of an In-Home Channel. These are described in Table 2 below:

Table 2: In-Home Channel – CBA benefit types impacted

Category	Benefit Item
Consumer benefits	<p>Reduced electricity cost for consumers due to consumption reduction and peak shifting</p> <p>Reduced gas costs for consumers due to consumption reduction</p>
Electricity Network benefits	<p>Avoided network CAPEX due to reduction in energy consumption</p> <p>Avoided network CAPEX due to peak shifting</p> <p>Avoided network losses due to consumption change</p>

Gas Network benefits	GNI savings of own-use gas as a fuel due to reduced gas throughput Gas distribution network reinforcement savings
System benefits	Reduction in generation capacity costs due to peak reduction Reduction in average SEM prices due to consumption change

The consumption reduction and peak shifting benefit included in the CBA are based on the results of the Irish Smart Meter Consumer Behaviour Trial (CBT). These trials included real time feedback, and the base case results from the trials are associated with availability of near real-time data in the home. The reduction assumed is shown in Table 3. In the absence of real time data in the home consumer feedback will be based on D+1 data. This is assumed to capture 90% of the consumption reduction and peak reduction compared to availability of real time data in the home⁵.

Table 3a: CBA model assumptions on consumption patterns changes

	Consumption change with ToU	Consumption change with ToU and real time feedback	Consumption change with ToU and D+1 feedback
Peak	-8.15%	-9.93%	-9.75%
Day	-2.6%	-3.09%	-3.04%
Night	-0.36%	+0.86%	+0.74%

⁵Advanced Metering Initiatives and Residential Feedback Programs: A Meta-Review for Household Electricity-Saving Opportunities, American Council for an Energy-Efficient Economy, 2010

These are based on the Irish Smart Meter CBT results for Tariff A during the second 6 months of the trial

Assumed that D+1 captures 90% of benefit of real-time

Table 3b: CBA model assumptions on consumption level changes

	Smart meter and real time feedback		Smart meter and D+1 feedback	
	Gas	Electricity	Gas	Electricity
Overall consumption change	-2.9%	-2.86%	-2.6%	-2.57%

Consumption change for real time feedback is based on the results of the Irish smart meter CBT, assumed that D+1 data captures 90% of real-time benefit

Without an In-Home Channel, properties with no home internet would not be able to receive consumption feedback through either an IHD or app. The absence of an In-Home Channel therefore increases the number of properties without consumption feedback from 3% to 15%⁶. In the CBA, no consumption change benefits are included for these properties.

2.1.3 Wider implications of an In-Home Channel

The presence (or absence) of an In-Home Channel as a mandatory element of the NSMP could impact consumers, and the operation of competitive markets, in ways which are not captured within the CBA model. For example, where potential developments are uncertain and/or difficult to quantify. In this context, the CER makes the following observations:

⁶ It is assumed in the CBA that 15% of properties have no home internet (Irish Central Statistics Office, Households without computer connected to the internet 2015) and that 19% are HAN infeasible (ESBN estimate). It is therefore assumed that 3% are both HAN infeasible and have no home internet.

- A mandatory In-Home Channel would be a standard data platform. This could make it easier for a customer to move between service providers, across all the services that make use of the platform. This could in turn promote more effective competition in services that make use of near real-time consumption information.
- A mandatory In-Home Channel would be universal (where technically feasible). It therefore reduces the risk of some customers not having access to an information service that would help them reduce their energy costs, e.g. if do not have access to the internet. The risk of two-tier customer experiences could be compounded if services other than information provision were developed making use of the In-Home Channel.
- Conversely, the provision by a regulated utility of an In-Home Channel might have the effect of stifling innovation in the provision of smart services to customers, because the scope for proprietary solutions (for example, provided by parties other than energy Suppliers) could be reduced.
- The provision of information derived from near real-time consumption data might be important in building consumer acceptance and understanding of some of the more sophisticated products and services that smart metering can support, e.g. dynamic Time-of-Use tariffs. The absence of a platform to make such information available could slow down the adoption of such products over time – and hence reduce the realised benefits for consumers from load-shifting.

These observations are not intended to capture a complete list of the potential wider implications of an In-Home Channel being included (or not) as a mandatory element of the NSMP. The CER would welcome evidence on these potential wider implications, and any others identified (see Question 2 below).

2.1.4 Views invited

Question 1: The current assumption in the CBA model is that an in-home information service based on “D+1” will be on average 10% less effective at changing usage behaviour than an in-home service using near real-time information. Do you have any further evidence relevant to understanding better the range of uncertainty around this assumption?

Question 2: Will the presence or absence, of an In-Home Channel to provide customers with on-demand access to near real-time consumption information, have wider implications for customers and competition within the energy sector. Do you have evidence to support the materiality of any such implications?

Gas Smart Metering Service

This section discusses the role of smart metering services to gas consumers in the NSMP High Level Design, and how its impacts are modelled presently.

2.1.5 Description

The NSMP High Level Design includes deployment of gas and electricity smart meters to residential homes and SMEs. In the absence of Gas Smart Metering Services, only electricity smart meters would be deployed.

The costs and benefits associated with Gas Smart Metering Services are outlined in the sections below. This includes benefits and costs that are quantified in the CBA model, and wider advantages and barriers that will be taken into account.

2.1.6 Modelled costs and benefits

The deployment of gas smart meters enables a range of consumer, networks and supplier benefits. Consumer benefits are mainly from the visibility provided to consumers on their gas consumption (via the same channels as for electricity), which may allow them to reduce their consumption, and hence reduce their gas costs. Other benefits include avoided network costs for meter reading visits and other site visits, as these can now be performed remotely. If Gas Smart Metering Services are not included, these benefits will not be realised. An overview of these and other benefits contingent on gas smart metering that are included in the CBA model is given in Table 4 below.

Table 4: Gas Smart Metering – CBA benefit types impacted

Category	Benefit item
Consumer benefits	Gas consumption reduction
	Avoided consumer time for reading meter, siteworks and business as usual meter installations
Gas networks benefits	Avoided costs of business as usual meter units and installations
	Avoided meter reading costs

	<p>Avoided siteworks costs for meter locks and unlocks</p> <p>Avoided gas prepayment card costs</p> <p>Savings of own-use gas and distribution network reinforcement due to reduced throughput</p> <p>Gas theft reduction</p>
Supplier benefits	<p>Reduced consumer calls due to no estimated reads</p> <p>Reduced PAYG consumer cost to serve due to smart metering</p> <p>Debt management savings</p> <p>Reduced consumer switching costs</p>

Gas smart metering requires the acquisition and installation of gas smart meter units, as well as the upgrade of networks and supplier IT systems to cater for gas smart meter data. Networks and supplier programme management and staff training costs would also be incurred. If Gas Smart Metering Services are not included, then these costs would not be incurred. An overview of the costs associated with gas smart metering that are included in the CBA model is given in Table 5 below.

Table 5: Gas Smart Metering – CBA cost types impacted

Category	Cost item
Consumer costs	Gas consumer time costs for learning about gas meter and for smart meter installation
Gas networks costs	<p>Capex on gas meter units and installations</p> <p>MDMS (meter data management system) and CIS (consumer information system) licence costs</p> <p>IT systems costs</p> <p>Additional staff costs for smart meter operations</p>

	GNI programme management costs
	WAN communications costs
	Legacy non-smart increased meter reading and overhead costs
Supplier costs	IT systems costs
	Smart PAYG related costs for gas consumers
	Calls to suppliers during rollout for gas smart metering
	Smart bill related costs for gas consumers
	Staff training and additional staffing costs
	Programme management costs

The gas consumption change included in the CBA is based on the results of the Irish gas smart meter CBT. The assumed consumer consumption reduction is shown in Table 6. In the absence of gas smart metering, no gas consumption reduction benefit is included in the CBA.

Table 6: CBA model assumptions on gas consumption level changes

	Gas smart meter and enhanced billing	Gas smart meter, enhanced billing and real time feedback
Gas consumption change	-2.2%	-2.9%

These are based on the CBT results for bi-monthly billing

2.1.7 Wider implications of inclusion of gas smart metering

The presence (or absence) of gas smart metering as a mandatory element of the NSMP could impact consumers, and the operation of competitive markets, in ways which are not captured within the CBA model. For example, where potential

developments are uncertain and/or difficult to quantify. In this context, the CER makes the following observations:

- Competition for “dual fuel” customers is a key feature of retail competition in Ireland. Rolling out smart metering for electricity customers but not to gas customers adversely impact competition overall – for example, by requiring new entrant suppliers to invest in and maintain two fundamentally different sets of systems and processes across the two fuels (or limit themselves to “electricity only” customers).
- Innovations in how services are provided to customers, including how information and technology are used to help customers reduce the cost of their energy usage will be more limited in their beneficial impacts if gas is excluded from the scope of the NSMP – because innovation in services to electricity customers will not be readily transferable to gas customers. An example might be the use of smart metering data by switching sites or brokers.
- The rollout of smart metering constitutes a unique opportunity to engage with individual communities and groups of customers on what energy efficiency means for them. The exclusion of gas customers from the NSMP could result in this engagement being less “joined up” – and hence less effective.

These observations are not intended to capture a complete list of the potential wider implications of gas customers being included (or not) as a mandatory element of the NSMP. The CER would welcome evidence on these potential wider implications, and any others identified (see Question 3 below).

2.1.8 Views invited

Question 3: Will the exclusion of residential and SME gas customers from the rollout of smart meters under the NSMP have wider implications for customers, and competition within the energy sector? Do you have evidence relevant to understanding the materiality of any such wider implications?

Electricity Smart Metering Service to SMEs

This section discusses the role of smart metering services to Small and Medium-Sized Enterprises (SMEs) in the NSMP High Level Design, and how its impacts are modelled presently.

2.1.9 Description

In the NSMP High Level Design, smart meters are installed in both residential and SME premises. All homes and SMEs would have smart electricity and, where relevant, gas meters installed. If electricity smart metering for SMEs is excluded, then electricity smart meters would be rolled out to residential consumers only. SMEs in this case would not receive a smart electricity meter.

The costs and benefits associated with Electricity Smart Metering Services for SMEs are outlined in the sections below. This includes benefits and costs that are quantified in the CBA model, and wider advantages and barriers that will be taken into account.

2.1.10 Modelled costs and benefits

Smart metering for SMEs enables a range of benefits for consumers, networks and suppliers. In most cases, these benefits are the same on a per meter basis as for residential smart meters (e.g. avoided meter reading costs and meters can now be read remotely for both residential and SME consumers). There are, however, a number of differences between the benefits attributed to SME consumers and to residential consumers, the most significant being the assumptions on SME consumption change with smart metering. An overview of the differences between the treatment of benefits for residential and SME consumers in the CBA is given in Table 7 below.

Table 7: Electricity Smart Metering SME Customers – CBA benefit types impacted

Category	Benefit item
Consumer benefits	<ul style="list-style-type: none"> ▪ SME consumers are assumed to have no electricity consumption change, as the Irish smart meter CBT found no statistically significant consumption change for SMEs ▪ Assumed that there is no SME consumer time benefit for avoided meter reads (SMEs are present when meter readings are carried out and so do not need to read meter themselves) ▪ Time avoided on enquiries/complaints related to estimated reads is assumed to have a higher cost per hour than for residential consumers

All other benefits

Other per meter benefits are assumed to be the same on average for both residential and SME consumers. SME benefits will be affected by the change in the number of meters deployed in the same manner as residential.

The deployment of smart meters to SMEs incurs costs for meter acquisition and installation, as well as other per meter networks, supplier and consumer costs. Most of these costs are the same on a per meter basis as for residential meters. An overview of the differences between the treatment of costs for residential and SME consumers in the CBA is given in Table 8 below.

Table 8: Electricity Smart Metering SME Customers – CBA cost types impacted

Category	Cost item
Smart meter unit and installation costs	For electricity smart meters, separate inputs are sought on the unit and installations costs for SMEs
Consumer time costs	<ul style="list-style-type: none"> ▪ Time spent learning about the smart meter, device/app and ToU is assumed to have a higher cost per hour than for residential consumers ▪ There is assumed to be no SME consumer time cost for meter installation (assumed that a person is present anyway, and no time has to be taken out for the installation, only time for learning specified above)
All other costs	Other per meter costs are assumed to be the same on average for both residential and SME consumers. SME costs will be affected by the change in the number of meters deployed in the same manner as residential.

The consumption change benefits in the CBA are based on the Irish smart meter CBT, which found no statistically significant electricity consumption change with smart metering. This contrasts with the findings for residential customers, which are summarised in Table 3a and 3b above.

2.1.11 Wider implications of inclusion of SME electricity customers

Not rolling out smart metering to SME electricity customers as a mandatory element of the NSMP could impact consumers, and the operation of competitive markets, in ways which are not captured within the CBA model. For example, where potential developments are uncertain and/or difficult to quantify. In this context, the CER makes the following observations:

- While it is prudent to base the CBA modelling on the findings of the CBT, it is also true that a subset of businesses will be able and willing to manage their energy use to some extent to reduce their energy costs. Further, that this proportion might be higher (and the longer-term changes more significant) than observed in a 12-month trial – where participating businesses knew that any cost savings would not extend beyond the duration of the trial. In that context, it may be worth capturing these benefits in the model assumptions if statistically significant and/or wider decision making process.
- Rolling out smart metering for residential electricity customers but not to SME customers might adversely impact competition overall – for example, by requiring new entrant suppliers to invest in and maintain two fundamentally different sets of systems and processes across the two fuels (or limit themselves only to residential customers).
- Innovations in how services are provided to customers, including how information and technology are used to help customers reduce the cost of their energy usage will be more limited in their beneficial impacts innovations in the residential market cannot be readily transferred to business customers.
- SME customers would continue to have wholesale electricity costs attributed to them using estimated profiled of within-day usage. For some businesses, this will mean energy costs continuing to be higher than they should be based on their actual pattern of usage – which in turn make those businesses less competitive in their respective markets.

These observations are not intended to capture a complete list of the potential wider implications of SME electricity customers being included (or not) as a mandatory element of the NSMP. The CER would welcome evidence on these potential wider implications, and any others identified (see Question 4 below).

2.1.12 Views invited

Question 4: Will the exclusion of SME electricity customers from the rollout of smart meters under the NSMP have wider implications for customers, and competition within the energy sector? Do you have evidence relevant to understanding the materiality of any such wider implications?

DRAFT

3 Summary of Proposals

The aim of this table is to allow for a “short-cut” option for respondents to submit their comments to the CER. Respondents are invited to complete the table to indicate their position on the questions being asked. Respondents should outline YES or NO answers to each of the questions listed. If they have a further comment that will clarify their answer, this should be included in the Comments box.

This will be published alongside the Consultation Paper in Word format.

Please note: Respondents are in no way obliged to respond to the questionnaire provided and are welcome to submit comments in their preferred format. When preparing responses respondents should indicate which question or proposal their text refers to.

Question		Response		
No.	Question	Yes	No	Rationale or evidence
1	The current assumption in the CBA model is that an in-home information service based on “D+1” will be on average 10% less effective at changing usage behaviour than an in-home service using near real-time information. Do you have any evidence relevant to understanding better the range of uncertainty around this assumption?			
2	Will the presence or absence of an In-Home Channel to provide customers with on-demand access to near real-time consumption information have wider implications for customers, and competition within the energy sector? Do			

	you have any evidence relevant to understanding the materiality of any such wider implications?			
3	Will the exclusion of residential and SME gas customers from the rollout of smart meters NSMP have wider implications for customers, and competition within the energy sector? Do you have any evidence relevant to understanding the materiality of any such wider implications?			
4	Will the exclusion of SME electricity customers from the rollout of smart meters NSMP have wider implications for customers, and competition within the energy sector? Do you have any evidence relevant to understanding the materiality of any such wider implications?			

4 Next Steps

CER invites all interested parties: members of the public, the energy industry, technology providers and consumer representatives, to comment on the questions raised in this paper by close of business on 06 January 2017.

The CER intends to publish all submissions received. Respondents who do not wish part of their submission to be published should mark this area clearly and separately or enclose it in an Appendix, stating the rationale for not publishing this part of their comments.

The CER will publish a Consultation Response Paper following receipt of responses.