

Appendix 07.03.00 – Customer Vulnerability Strategy

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Our Customer Vulnerability Strategy

In developing our strategy, we considered a number of factors including what we mean by vulnerability and the outcomes that customers and stakeholders tell us that they want. As such we created our definition of vulnerability alongside our Stakeholder Advisory Panel¹ and have subsequently tested it with numerous expert stakeholders including Citizens Advice and National Energy Action.

Our definition is: **“Vulnerability describes a situation, be it transient or permanent that can impact a customer at some point during their life. Vulnerability can arise through changes that happen both inside and outside the energy industry. Those customers who find themselves in a vulnerable situation are more affected by Cadent’s action or inaction than other customers.”**

Our vision is to set the standards that all of our customers love, and this means that we must understand, plan for and respond to the needs of all vulnerable situations relevant to our business that customers find themselves in.

Our strategy factors in how vulnerability is managed at Cadent, our data, the services our customers need, along with the feedback we’ve had from customers and stakeholders, our own lessons learnt and good practice we have noted from others. It is informed by Ofgem’s definition of consumer vulnerability and also takes into consideration the levels and types of vulnerability faced by our customers today and how this is likely to change into the future.

Half of UK adults (25.6m people) display one or more characteristics of being potentially vulnerable (Financial Lives Survey 2017). Over 1.5m adults in the UK do not have a bank account, 16.4% can be described as having very poor literacy skills. 4.5m have never used the internet and 13.9m are registered as disabled. These general UK trends can be seen across each of our four networks. In our output cases that follow as annexes to this strategy, we provide a more granular description of the vulnerability characteristics in each of our network regions.

It is widely accepted that certain types of vulnerability will increase in the future, in particular as people live longer, and technological advancements risk leaving some customers behind. Our strategy recognises that all customers are unique and that their individual circumstances today could be different tomorrow. Our strategy therefore reflects the need to understand and prepare for these changes before they happen so that we can adapt and respond as needed and continue to provide great customer experiences to all of our customers. Our approach to horizon scanning is described below.

As the largest GDN within the UK, we and our customers believe that we should take a leading role in supporting customers and in developing the landscape for the future; one that ensures that access to services is based on customers’ needs irrespective of where they live.

The overarching principle of our strategy is not to utilise labels and categories, but to provide services to all, recognising the specific circumstances of each customer individually and tailoring services to meet their needs. Providing services for all means gaining and maintaining a deep understanding of our customers’ needs, mapping their needs and co-developing responses with partners to ensure that the appropriate skills and services are deployed.

We have applied findings and recommendations from Sustainability First’s Energy for All – Innovate for all report of the results of their Project Inspire². Against a changing landscape of energy needs, greater data and new

¹ We established our Stakeholder Advisory Panel in 2017, which included experts from across the industry, consumer groups and the third sector, to oversee our ongoing engagement strategy. In 2019, we disbanded the Group as there was clear overlap with our newly appointed CEG. We have since established numerous regional stakeholder groups. See our Stakeholder Engagement Strategy (Appendix 05.01) for more details.

² [https://www.sustainabilityfirst.org.uk/images/publications/inspire/Energy%20for%20All-%20Innovate%20for%20All%20\(summary\).pdf](https://www.sustainabilityfirst.org.uk/images/publications/inspire/Energy%20for%20All-%20Innovate%20for%20All%20(summary).pdf)

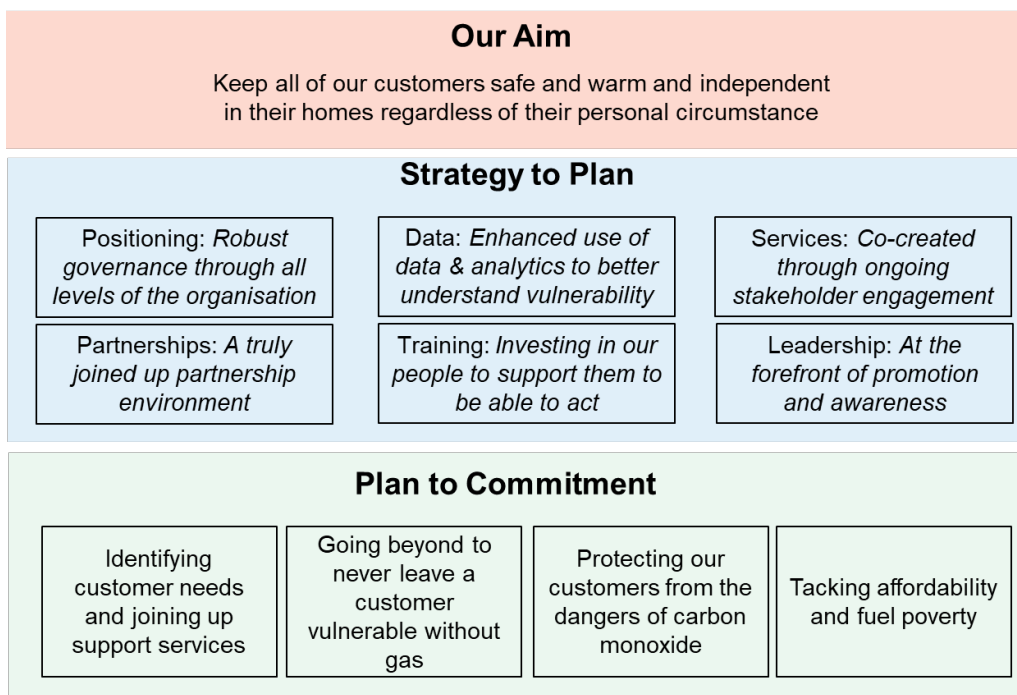
technology, the key learning from this is that our strategy and approach must not just seek to minimise risk and harm to our customers but also where possible take proactive action to make the most of opportunities to improve services. Amongst the good practice that this study identified, they provide four guides to standard, good and innovative practice to help companies improve service and the quality of life for customers. These cover identifying customer needs, improving access, affordability and security and peace of mind. These map closely to our four customer commitments (see below) in this strategy and also to our wider customer strategy, which is described in Chapter 7.2 of our Plan.

Our strategy has been developed against three tiers – 1. Our Aim 2. Our Strategy to Plan, and 3. Our Plan to Commitments – this is shown in the figure below. This strategy sits below our overall customer strategy. Our overall customer strategy has been established to create a culture of customer centricity across the organisation. It does this through:

- the alignment of corporate structures and roles and accountabilities
- focussing and advancing our use of customer data
- combining the above with leading analytical capabilities to enable us to use the data, aligning incentives around customer performance (employees and delivery partners) and investing in technology to help our people provide:
 - better customer experiences
 - customers to self-serve and
 - for us to communicate using a wide variety of tailored channels.

This latter initiative will address one of the key requirements that our customers have – for us to get to know them better and treat them as individuals. In our measuring and assessing accessibility and inclusivity output case (Appendix 07.03.05) we describe how we will deliver innovative and accessible communication for all, building on the improvements made in RIIO-1 (e.g. multi-language and signed website material, phone lines for the deaf, SMS feedback loop, etc) and work with an expert independent organisation to develop or adopt a comparable measure of accessibility for RIIO-2. This is a major element of our customer vulnerability strategy, but expands beyond customer vulnerability, for all of our customers. This is why this output case is presented as part of our overall customer strategy and not directly linked from this document.

Figure 1: Our Customer Vulnerability Strategy



Our aim

Overall our aim is to help keep all of our customers safe, warm and independent in their homes. We believe that everyone, no matter what their personal circumstances, should have access to safe, reliable and affordable energy to help them stay healthy and live their lives in more comfort.

We believe in the concept of 'services for all'. We deliver an essential service to the communities and customers we serve. Because of the nature of our business, the impacts that our inability to supply or the potential volatility of gas, can lead to dramatic consequences; this is particularly true when a customer finds themselves or loved ones, vulnerable due to a specific situation. We have an opportunity and a desire to help protect and empower people to be safe, warm and independent in their homes.

We are the largest GDN and bigger than any of the electricity DNOs. Only one gas supplier is a larger company than Cadent. We see this, along with our enduring relationships with homes and communities (unlike gas suppliers where customers have a choice) as compelling reasons why we should play a leading role in setting standards to support customers in vulnerable situations. We have done so during RIIO-1 through leading roles played in joining up a single (Priority Services Register) PSR for energy companies, defining needs codes and the work we have done to raise the awareness of the dangers of carbon monoxide. We believe that our strategy through RIIO-2 and beyond extends this leadership role, setting the standard for others to follow.

We actively participated in the consultation process relating to OFGEM's Consumer Vulnerability Strategy and have considered Ofgem's and respondents' views and reflected highlighted good practice and emerging expectations in our approach.

Our Strategy to Plan

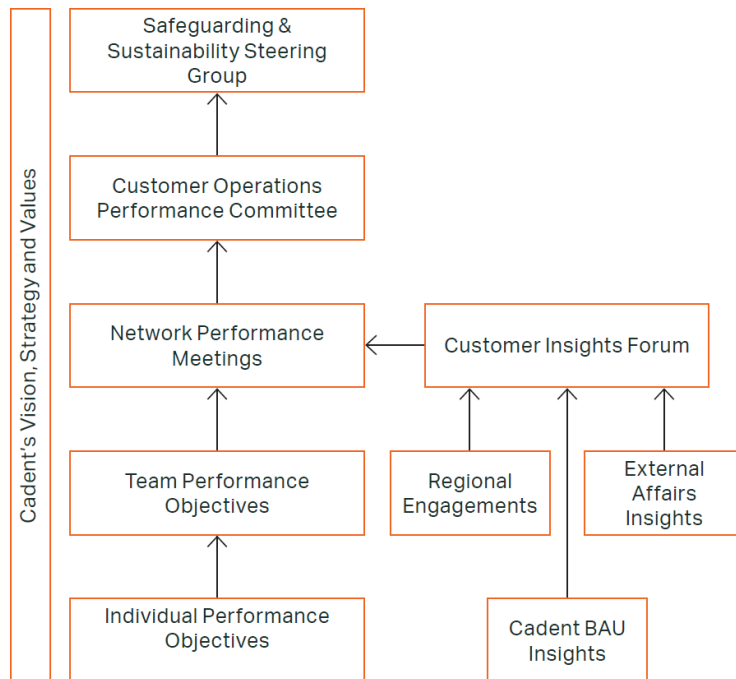
Our 'strategy to plan' describe the six core foundations that we have established across our organisation in order to achieve the ambition level described in our 'aim'. These are the fundamental building blocks that are essential to our overall success in supporting all of our customers.

Positioning: Robust governance throughout all levels of the organisation

We have established a clearly defined and effective governance model for overseeing our end-to-end customer vulnerability strategy. Ultimate accountability for the strategy sits with our Director of Customer Strategy, along with stakeholder engagement, which is so closely linked. A dedicated team oversee the design and delivery of schemes of work relating to raising carbon monoxide awareness, the continued development of a cross industry PSR and manage our various delivery partnerships, including the strategic delivery partnership we have in place with Affordable Warmth Solutions for fuel poor connections.

Progress against the various initiatives and targets in this strategy is monitored and steered by Cadent's Safety and Sustainability Committee. Three of our Board members sit on this committee and ensure a strategic alignment with the full Board agenda, whilst supporting the delivery of the customer vulnerability agenda. They take a leading role on the Board as 'champions' for our customer vulnerability strategy. Below the Safety and Sustainability Committee sits Cadent's Customer Operations Performance Committee ('COPC'), which is fed by Network Performance meetings and Cadent's Customer Insights Forum. Team and individual objectives are aligned to Cadent's vision and strategies and underpin these performance meetings and committees. The diagram below summarises this:

Figure 4: Our governance model for customer vulnerability



We use our Social Return On Investment (SROI) model alongside wider insight to help prioritise initiatives that we implement and also measure the impact of them. This model is described in more detail in our Stakeholder Engagement Strategy (Appendix 05.01). It is not the only factor we apply to prioritisation but the factor we apply the greatest weight to; we also consider factors such as more traditional cost-benefit-analysis, the impact on our brand, the complexity of a project, the risks associated with it and the total cost.

Data: Understanding vulnerability – both domestic and non-domestic

In line with Ofgem’s Consumer Vulnerability Strategy, through ongoing engagement we seek to understand how our activities as a business impact different types of customers in vulnerable situations, and businesses serving vulnerable customers, so we can respond to and pre-empt their needs e.g. during gas interruptions, home visits, when carrying out street works.

We have mapped customer vulnerability risk factors in our regions, their prevalence and concentrations. These include ‘personal characteristics’ e.g. disability, and customers’ wider ‘situations’ which may be relevant e.g. fuel poverty and affordability, internet access, building and tenancy type. This helps us to more effectively prioritise our activity, design our services, and target and deliver more tailored support.

To achieve this on an ongoing basis, we have developed a good practice ‘needs analysis mapping tool’ with the Centre for Sustainable Energy. This tool relies on publicly available data, purchased data and our own data (including PSR) to visually map the concentration of people with different vulnerability risk factors. This tool is updated regularly and will be able to be used and accessed by our Customer Vulnerability team, customer specialists across our Networks and colleagues in Affordable Warmth Solutions to inform day to day decision making. Having a visual map of vulnerability across our network which is regularly updated, will help us to prioritise and adjust the services that we offer, understand which communities will benefit most or be most impacted by our decisions e.g. reinforcement activity and prioritise the partnerships we enter into. We can also organise relevant events to engage a particular group of customers (both directly and through trusted parties).

During RIIO-2 we will continue to enhance this tool with further sources of data and through the lessons we learn from its current application. Using the tool, we will carry out gap and behavioural analysis to support (1) the design of new safeguarding services (2) the priority in which we develop partnerships and (3) a deeper understanding of

how best to engage with customers that may be less able to gain access/be aware of our services due to communication, mobility or access restrictions. We expect these improvements to be fully developed by the start of RIIO-2.

Our intention is to then share and broaden the availability of the data set to aid others, including other companies, charities and partnership organisations, and drive consistency in helping to identify where safeguarding services can be matched more effectively to customer need(s).

Understanding specific customer journeys is very important. Until relatively recently we typically considered domestic and non-domestic customers when tailoring solutions. In 2018 we started to better segment our customers based on their needs and began to map the customer journeys for different customer segments, including six different journeys for business segments. This helps us to then consider how services can be tailored, including considering customer vulnerability.

Large organisations such as hospitals usually have readymade contingency plans should there be a supply interruption, but smaller care homes don't always. By mapping customer journeys and considering needs of various customer types we are able to respond more effectively to each case we visit. We will continue this approach in RIIO-2 noting that journeys and needs change over time.

Services: Developed through ongoing stakeholder engagement

Our customer vulnerability strategy has been informed by targeted customer and stakeholder engagement and a robust analysis of how other organisations are supporting their customers in vulnerable situations. This includes providing early sight of our strategy to experts within Citizen's Advice and Britain Thinks who identified both strengths and areas where we could improve, which have been factored into this document.

Figure 2: Inputs to our customer vulnerability strategy

Customer Feedback	Expert Stakeholder Feedback	Benchmark Analysis	Lessons Learnt in RIIO-1
<ul style="list-style-type: none"> Overwhelming support for us to enhance the service levels we currently provide for customers in vulnerable situations. Providing advice and education in respect of the dangers of Carbon Monoxide ('CO') is a real priority. Some conflict over customers' willingness to pay for additional services for those in vulnerable situations (see the Triangulating results of our Research and Engagement Programme in Chapter 05). We should do more to support customers in fuel poverty and providing free gas connections alone will not meet expectation levels. There is a nervousness amongst customers about how their data may be used if signing up to the PSR "Don't call me 'vulnerable'". 	<ul style="list-style-type: none"> Despite great progress with the PSR, there is still huge requirement to increase general awareness of vulnerability and support available. Where existing support organisations exist for types of vulnerability, we should work with these organisations to raise awareness levels. There is a disjointed approach to fuel poverty across multiple industries which would be more effective if brought together. The number of customers finding themselves in vulnerable situations will increase as people live longer. 	<ul style="list-style-type: none"> Many organisations are improving their ability to identify potential vulnerability through enhancements in data and analytics. We must avoid a 'postcode lottery' effect in delivering services. Evidence of benefits by working with partners to tackle issues that cut across multiple sectors. All GDNs have significantly 'raised the bar' in terms of additional support to customers in vulnerable situations over RIIO-1. The most successful organisations typically have very clear accountability for tackling the challenges related to vulnerability at the very senior levels of their business. Customers often do not see themselves as in a vulnerable situation when in fact they are. 	<ul style="list-style-type: none"> Having a central, dedicated team accountable for Cadent's vulnerability strategy is essential. The needs of customers change over time. It is impossible to deliver fundamental improvements alone – picking the right partnerships is crucial. Actions to identify and support customers in vulnerable situations are generally delivered by front line staff. Training for these individuals is invaluable. Our employees take enormous pride from the activities we do to support customers in vulnerable situations. Need to work with policy-makers to ensure regulatory framework and schemes meet the needs of customers and evolve with changing requirements.

Our operational approach for RIIO-2 has built upon our existing approach and the learning that we have amassed over RIIO-1. Off the back of the feedback and our ongoing learning, our services are developed against the following principles:

- Freedom – for employees and engineers to use their own judgement to support customers in vulnerable situations, building on the training they are provided
- Eligibility – vulnerability is transient and not all customers who are in vulnerable situations are registered on the PSR.
- Decision – when determining new services, we operate Proof of Concepts, test options and review performance with different customer segments
- Portfolio – base the services provided on specific needs and consider the delivery model (e.g. partnerships)
- Coverage – consideration of all 'codes' of vulnerability in the PSR must be made when determining services and how they are provided

The link between our Customer Vulnerability Strategy and the Future Role of Gas

There is a clear link between our Customer Vulnerability Strategy and our approach to whole system thinking, in particular when considering the impact on all customers that will be experienced based on the various pathways for the future role of gas. This is described in Chapter 6, Net Zero and a whole-system approach, of our Business Plan. How we decarbonise heat will be a decision made taking account of many factors including the impact on all customers, including those in vulnerable situations. From our engagement we concluded very early that the primary customer drivers are both cost and the level of disruption caused. Experts from organisations directly working to support customers with various additional needs explain why these factors are even more important to customers in vulnerable situations, noting the additional reliance on gas and impact that disruption can have.

In reviewing the various pathways for the energy transition programme, it is very clear to us that any change to something so personal as the source of warmth in the heart of your home, should be minimised and avoided completely if possible. To support this, we have led research and innovation that achieves this, including replacing natural gas with green alternatives. Should change become necessary we will ensure the need to support all our customers through the transition will be a cornerstone of any delivery plan. Even where our customers must disconnect from our network and switch to an alternative, such as electric heating, we will still play a role in supporting them through the transition and championing their requirements.

To support the objective of delivering a change with minimum cost and disruption, we have used our voice with policy makers and influencers to ensure these factors are properly considered as policy is developed. These messages have been successfully communicated with other key stakeholders now airing the same priorities, including in recent reports from Carbon Connect and Navigant for the Energy Networks Association.

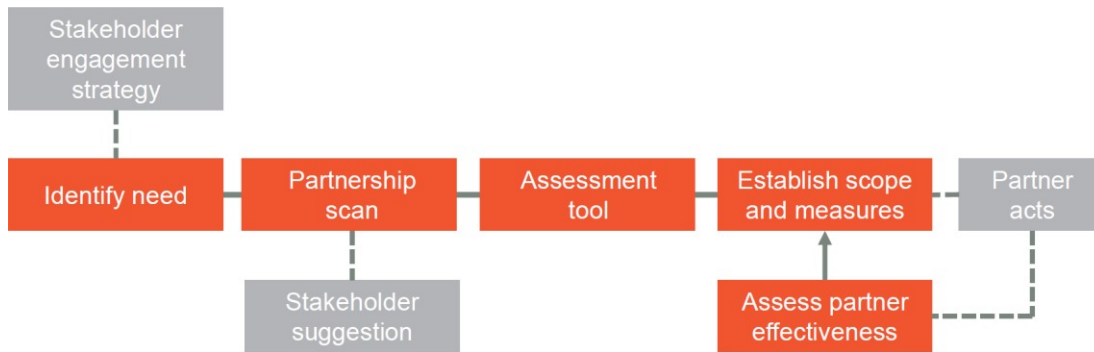
We will continue to encourage the least disruptive solutions such as hydrogen and biomethane, with trials and pilots through RIIO2. We firmly believe that the least cost least disruptive net zero energy system for 2050 and beyond, has the gas network at its centre, to deliver the optimum solution for all our customers.

Partnerships: Establishing the right partnership arrangements to make the greatest possible difference

We have established partnerships with third-party organisations where the partner organisation is in a better position to deliver an output than we are ourselves. This helps to improve the effectiveness and cost efficiency of our approach. Factors such as their reach, daily exposure to impacted customers, the level of embedded trust customers place with them already can place partners in a better position than ourselves in delivering these services to our customers. These partners share information about the services that we offer to their network of potentially hard to reach customers (utilising their trusted position especially with those customers which we don't have access to), as well as partners who deliver support such as energy saving advice, adaptations to the home or befriending services. Supporting our communities and our customers living within these situations, in tailored ways is a central aspect of our stakeholder approach; partners are instrumental to achieve this vision.

We have developed, a new partnership strategy including a set of tools to help us frame existing partnerships and shape future ones.

Figure 3: Partnership strategy



This partner strategy includes a feedback loop that allows us to measure outputs delivered by our partners against a set of agreed expectations. This feedback loop enables us to continuously improve the partnerships that are delivering good results and to amend or stop the ones that are not delivering value for money. Whilst measuring the effectiveness of our partnerships is a key aspect of this strategy, we have also learned from past feedback, that selecting the right partner is critical to the success of our delivery too. We have developed, tested and implemented a partnership selection tool – this provides a standardised scoring guideline that all departments can follow when choosing between potential partners; including those picked through another (new) process, the partnership scan, or through stakeholder suggestion/recommendations. The partner selection tool also contains standard questions that allow our colleagues to extract information upfront from conversations with potential partners, helping to shape the agreed delivery of services expected.

In addition to a structured method to ‘feed the top of the funnel’ by identifying potential partners and a structured selection tool we have developed a standard approach to setting up proof of concept projects to test our plans before rolling these out across the whole network.

Proof of concept partnership pilots

Proof of concepts are arranged with the chosen partner to deliver a specific outcome which Cadent is not best placed to deliver by itself. Typically, this will take place in a limited geographical area over a period of time that is appropriate to assess impact of partner delivery (this will vary depending on the type of outcome). We will set clear objectives with partners on the outcomes that they (and where relevant Cadent), are expected to deliver and will revisit these at the end of the proof of concept phase.

We are using the Cadent Community fund to deliver a number of these pilot projects. An example of this is our work with NEA in the West Midlands. In 2019 we initiated a trial where we link our emergency workforce with NEA to provide additional services, beyond the meter. We have provided training to our engineers to help them to identify potential vulnerability or additional needs of customers in certain situations. On occasions where they attend a gas escape and are forced to isolate appliances and or interrupt the gas supply to the home they will inform contacts at NEA. The NEA will follow up with the customer(s) and make an independent and informed assessment of their needs. If they believe that the customer(s) require additional support, often financial, in order to remedy a condemned appliance (for example) they will refer the customer to a gas safe registered engineer who will either fix or replace the appliance. The cost will be covered by Cadent. In late 2019 we extended the scope of this trial across the UK by using part of our Cadent Community fund. By trialling certain initiatives, we ensure that the outcomes are delivered in the right way and ensure we extract the ‘lessons learned’ to improve our approach.

Following the success of this/any proof of concept phase, we update expectations and roll out this partnership across geographies as needed. In the opposite case, we explore whether our shared expectations were not realistic and/or ‘what went wrong’ – based on our view of the partner’s explanation for failure to deliver, we will

choose to either perform another test with a different partner or continue with the existing partner while making due amendments to processes, targets or other aspects of our partner's delivery.

During RIIO-2 we will extend our partners from c.30 to over 80. We have identified the partnerships we require based on the mapping of geographical need with our new CSE tool, our experiences in RIIO-1 (which partnership have worked, where benefits have been seen, etc) and on the increased levels of ambition in our Customer Vulnerability Strategy. Considering their reach, their geographical locations and their relative strengths and weaknesses, we are confident that we can deliver the commitments that we are making through a combination of our own employees and these partners. A list of our partners is attached in the annex of this strategy document and details around particular partners is described in each of our four output cases below (for example the importance of our partnership with each fire and rescue services across our regions in our carbon monoxide output case).

Training: Staying flexible and ready to act (to customer different needs)

We believe that no two situations are the same – vulnerability affects people in different ways. To allow us to respond to individual circumstances in a respectful and relevant way, we need to ensure that our customer facing colleagues (including both our call centre staff and our front-line engineers – both Cadent and those of our strategic delivery partners) are supported and equipped with classroom-based training at least annually providing:

- an understanding of what vulnerability means, including the temporary and dynamic nature of vulnerability;
- an understanding of the type of help they can offer when faced with a customer affected by a situation of vulnerability including those delivered through another party;
- awareness that vulnerability can impact our colleagues both through what they see at work and in their home life (so this care and support available, is personal too); and, most importantly;
- with a set of skills that allows them to spot signs of vulnerability and confidently handle the situation appropriately. This includes sensitively offering support services and recording additional needs on the PSR with appropriate customer consent.

An extensive toolkit of safeguarding communication vehicles, knowledge articles, training films and bestpractice examples has been developed to aid a consistent level of understanding. An example of application of the toolkit is a companywide communication programme that we started last Christmas where each month we introduced a new aspect of vulnerability through our 12-month advent calendar. This interactive online communication links to resources, good practice and educational material to help all of our employees to understand the divergent types of vulnerability and use this learning to support customers (and others) in their daily lives.

Tools and techniques are available for colleagues to use at the point of customer interaction. The aim is to have easy access from core systems. For example, if translation services are needed on the doorstep an engineering colleague can see how to best to use Google Translate as a first step, whilst they contact our Language Line providers for more in-depth conversations if needed.

Another part of staying flexible relates to the changing needs of customers over time. Our partnership approach helps us to do this by working closely with organisations who specialise in supporting customers in different vulnerable situations. We have also completed a PESTLE analysis, which is owned by our Head of Customer Vulnerability Strategy and updated periodically. This considers political, economic, social, technological, legal and environmental changes that can impact vulnerability. For example, population growth, life expectancy, trends in urban vs. rural living, isolation and loneliness factors, cost of living parameters, increases in the number of customers living alone, evolving markets, Brexit, data protection changes in legislation, future energy scenarios and many other factors. We have developed our PESTLE through engagement with experts, review of a wide range of publicly available reports and in conjunction with our future role of gas team in Cadent.

Leadership: At the forefront of promotion and awareness

Our research and engagement with 'general' customers, those in vulnerable situations and expert organisations working in roles supporting customers in vulnerable situations has shown that, despite improvements, there continues to be a relatively low level of awareness of the PSR among customers and even some organisations which are supporting customers in vulnerable situations. Moreover, an even lower proportion of customers understood the range of vulnerable situations that customers find themselves in, with many, who are potentially eligible to register on the PSR not acknowledging that fact. In part, this is to do with the term 'vulnerability', which most of our customers (and staff) see as a negative or patronising term, denoting a lack of independence or ability. This is one of the reasons that all of our external publications use language relating to 'services to all' as opposed to 'vulnerability' or 'safeguarding', which was also negatively perceived.

Don't hold a PSR, but do have responsibility to refer customers onto the shared PSR that we led in establishing and consider it important role to raise awareness of services. Over last few years we have typically referred c.11,000 per year and will continue to monitor this going forwards

Alongside standard industry practice such as literature left with customers, information on website and awareness raising events, we have worked with customers and stakeholders to identify methods that we could use to raise awareness, along with the learning that we've amassed through RIIO-1 and good practice reports. Our reach is ever increasing through a range of channels including but not limited to:

- Direct contact with engineers and our call centre
- Billboards across the UK
- Social media campaigns
- Partnerships with charities and providers of similar services
- Physical events
- Working with schools and other education centres

Our Plan to Commitments

Through our Customer Vulnerability Strategy we have developed the following set of output commitments in the four key priority areas of:

- Identifying individual needs
- Carbon monoxide awareness
- Tackling fuel poverty
- Going beyond to never leave a customer vulnerable without gas.

Identifying individual needs

Given our privileged role in providing an essential service, we believe we have a duty and moral responsibility to ensure that the needs of all our customers are understood and acted upon in a respectful and relevant way. In RIIO1 we have played a central role in the establishment of a single energy industry PSR and in supporting the alignment of the water and energy sector vulnerability needs codes. This has many benefits, including allowing customers to only register once, with any energy organisation for them to be registered across all. This data sharing process builds consistency, improves the customer experience and in itself helps to build awareness

Ofgem highlights many customers are not on the PSR that should be and our data suggests the same. Across our regions there are approximately 3.6 million customers registered on the PSR. We estimate (based on our Social Indicator Tool) that around 6.2 million should be registered but are currently not.

We must find effective ways to identify our customers' needs. We recognise that good practice is that we use all available business as usual touch points to identify customer vulnerability e.g. conversations between customers and our call centre staff and front-line engineers, including contractors; communicating via our website and wider communications. We encourage self-referrals by those who might benefit from support, and enable referrals from friends, family and those providing support services to customers in vulnerable situations.

In RIIO-1 there was no formal output measure in this area, yet we held c.500,000 conversations resulting in up to 11,000 direct referrals each year. In RIIO-2 we are planning on having 2,000,000 direct face to face conversations, marking a considerable increase. This extension is part of our wider ambition for all of our customers to understand the PSR, what it is used for and to remove the 'vulnerability stigma' attached to accepting and signing up to support services by the end of RIIO-3. During RIIO_2, we will continue to work to understand the many and varied situations that can lead to vulnerability across the communities we serve. In addition, we will continue to play a leading role to join up support services and similar work being done by other utilities and organisations to find the easiest and cost-effective way of addressing customer needs. We will train and equip all of our frontline staff with the knowledge and skills to support customers in vulnerable situations.

<p>Our commitments</p> <p>During RIIO-2 (2021–26) we will:</p> <ul style="list-style-type: none"> • Have 2 million direct conversations to raise Priority Services Register ('PSR') awareness. • Form over 80 strategic, programme and project partnerships. • Deliver annual vulnerability awareness training for all customer facing staff. • Innovate to deliver new products and services for customers in vulnerable situations. 	<p>This work will have an incremental cost of</p> <p>£8.2m to deliver over RIIO-2.</p> <p>Resulting in a</p> <p>12p annual customer bill impact</p> <p>for an average domestic customer.</p> <p>This commitment will deliver a net total value to customers of £0.6m based on willingness to pay.</p>
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As described in our 'Identifying individual needs output case' in the annex to this strategy, we have considered a number of options for how we raise awareness through advancements in the current PSR. For example, there are limitations with the current approach, not least the time it takes for data to be updated across the energy companies (particularly important during unplanned interruptions). We therefore considered whether we should create our own PSR to overcome this data reconciliation (timing) issue and have more say on how the PSR looks, feels and can be used. However, we believe that this is not in the best interest of customers as it would require multiple registrations and defeat the object of creating a single platform in the first place. Instead we have decided to build on our existing work and lead the effort to expand the PSR between the water and energy industry and to identify ways to remove the data reconciliation timing issues. One such improvement that we have already made is to create a business continuity measure that now allows us to continue to see up to date PSR records during system outages.

See output case in the annex below

Going beyond to never leave a customer vulnerable without gas

During an interruption, it is essential that we provide alternative provision to customers in vulnerable situations, to ensure they are able to keep warm and have access to hot food and water. Our responsibility is getting the gas supply restored at the customer's meter and keeping them away from the immediate harm of unsafe appliances. Our engagement insight told us that a particular concern is that when we are required to isolate or condemn a customer's appliance, it can create or increase a particular state of vulnerability and risk. We have therefore explored how we can work with partners to help repair or replace the appliance or address the problem to ensure we never leave a customer vulnerable without gas.

<p>Our commitments</p> <p>During RIIO-2 (2021–26) we will:</p> <ul style="list-style-type: none"> • Offer personalised welfare provisions for all customers in vulnerable situations (beyond the Priority Services Register ('PSR')). • Partner with charities to support vulnerable customers with internal appliance/installation works across all networks. <p>Note – these commitments build on pilots in RIIO-1 enabled by our community fund</p>	<p>This work will cost</p> <p>£21.8m to deliver over RIIO-2</p> <p>at an average cost of £1.1m per network p.a.</p> <p>Resulting in a</p> <p>32p annual customer bill impact</p> <p>for an average domestic customer.</p> <p>This commitment will deliver a total value to consumers of at least £64m, based on willingness to pay and social return on investment.</p>
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We are building this commitment on our experiences in RIIO-1, where we have trialled a number of additional welfare measures (such as temporary showers and NEA tested heated chair covers) and introduced our Incident Management Application. This app sits on tablet devices used by our engineers and teams when responding to a major supply interruption (impacting more than 250 properties). In these instances, we need access to additional real time information in order to understand customer needs, vulnerable situations and contact details. The app allows us to capture, record and use this data whilst onsite to ensure that we are aware of all customer needs and respond to them. Our response to incidents is generally very favourable from customers, stakeholders, and communities experiencing such events and we have shared the technology with other GDNs as good practice; one customer referred to our engineers as 'angels in orange' during the most recent loss of gas incident in Derbyshire.

See output case in the annex below

Carbon Monoxide Awareness

We must continue to raise awareness of the dangers, and intervene to reduce the risks from this colourless, odourless toxic gas that can escape from poorly maintained flues and appliances. Around 50 people die every year from carbon monoxide poisoning, 4,000 people go to Accident and Emergency and 200 are hospitalised.

Our customers and stakeholders say this is priority area and that we are well placed to perform this role. We have explored how to leverage our existing work to expand our reach in raising the awareness of the dangers of carbon monoxide through targeted education and improved partnerships. In addition, we are assessing the benefits of issuing CO alarms to all our customers, and through expert partnerships, providing additional support to customers in vulnerable situations.

<p>Our commitments</p> <p>During RIIO-2 (2021–26) we will:</p> <ul style="list-style-type: none">• Educate 200,000 of those most at risk to the dangers of CO.• Issue 3m CO alarms over RIIO-2.• Form partnerships with all Fire and Rescue, NHS Trusts and Ambulance services in our footprint.• Repair or replace 15,000 unsafe appliances for those most vulnerable.	<p>This work will have an incremental cost of £39.1m to deliver.</p> <p>Average cost per network: £2m per year.</p> <p>Resulting in a 58p annual customer bill impact for an average domestic customer.</p> <p>This commitment will deliver a total net benefit to consumers of at least £18m, based on willingness to pay and social return on investment.</p>
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See output case in the annex below

Tackling affordability and fuel poverty

Fuel poverty remains a significant problem in the United Kingdom and is a government priority. There are 1.5m homes in our network in fuel poverty, representing 58% of the total fuel poor households in the UK. From the top 20 local authorities in England most affected by fuel poverty, 19 are within our networks. In our most severely affected area, there are 1 in 5 customers living in fuel poverty.

We are assessing how best ways to tackle and reduce fuel poverty including whole house solutions. This will include delivering fuel poor gas network extensions and in-house interventions for customers on and off the gas network. We are considering how to improve affordability by offering energy and income advice to customers in vulnerable situations.

In RIIO-1 we will complete over 35,000 free or discounted gas connections under the Fuel Poor Network Extension Scheme (FPNES). Whilst this scheme has proven successful in supporting a large number of customers out of fuel poverty, the extension scheme by itself does not do this; additional measures are required to ensure that the connection adds value such as in house measures and this can create barriers to accessing the scheme. Additionally, and in particular during the early years of RIIO-1, the accuracy of identifying homes that were truly in fuel poverty was relatively low (below 50% in some cases) leading to a change in the qualification criteria mid-way through the period.

Our strategy for RIIO-2 is to focus on 'interventions' rather than purely on the FPNES scheme. Interventions, of which some will be free gas connections, will be tailored to the needs of the individual households that we are supporting and will ensure that actions taken truly take them out of fuel poverty. They will include in house measures such as first time central heating and insulation as well as providing end to end affordability and benefits support with trained professionals providing advice and help.

There are several ongoing initiatives that form part of our fuel poverty strategy. For example, we are working in conjunction with Affordable Warmth Solutions (AWS) to refine a visual mapping facility that builds a number of data sources to identify high likelihoods of fuel poverty to support targeted engagement and activities through their fuel poverty predictor tool.

In addition to this, we are finalising the plan for a pilot of a new innovative funding arrangement in Staffordshire (see case study below) and are using c£1m of our 2018/19 Cadent Community fund to support a separate initiative coordinated by AWS to provide a wide range of in home solutions for customers in fuel poverty. Our contribution will support around 1,000 homes across the UK to receive first time central heating solutions.

See Appendix 07.03.11.

Our commitments

During RIIO-2 (2021–26) we will:

- We will make 36,500 interventions to support those in fuel poverty including:
 - 6,250 fuel poor connections.
 - At least 5,000 additional in-house fuel poor interventions.
 - Offer income and energy advice to 25,250 customers.
- Trial a pioneering new approach to fuel poverty funding in England (see case study below).
- We will continue to innovate in developing methods to better target those that should qualify for support.

This work will cost **£50.7m** to deliver over RIIO-2.

Average cost per network per year:

£2.5m.

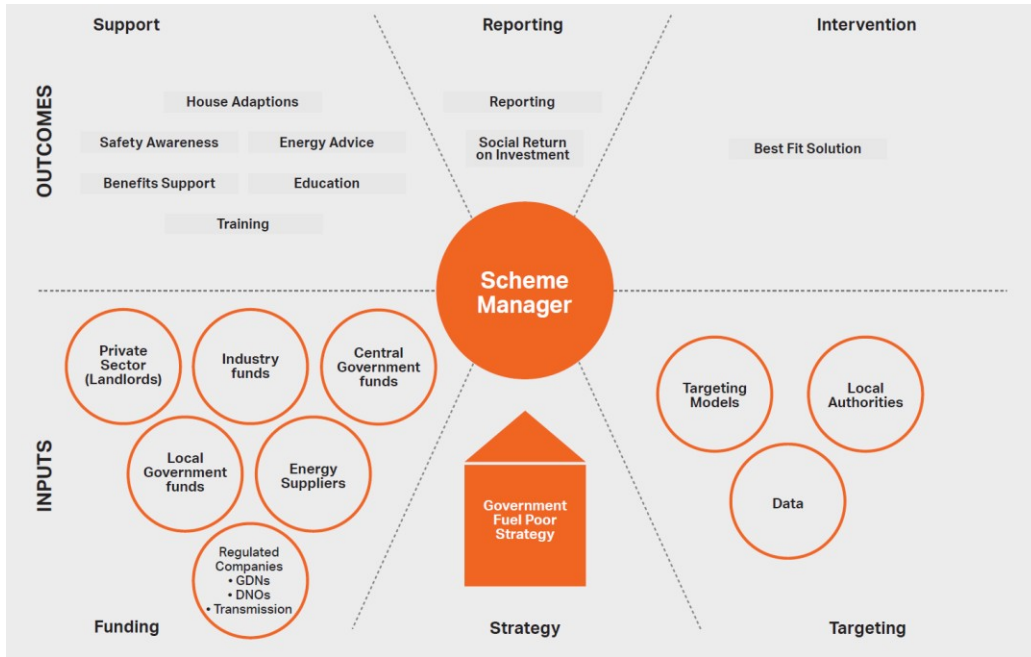
Resulting in a **55p** annual customer bill impact for an average domestic customer.

This commitment will deliver a total value to consumers of

at least **£298m**, based on willingness to pay and social return on investment.

Case study: Central funding approach to tackle fuel poverty

We will lead by trialling a pioneering scheme to join up all fuel poor funding across the energy industry to provide a one-stop shop for fuel poor customers. We have set out a vision, derived by our Community Interest Company partner, Affordable Warmth Solutions, of how a funding mechanism might work in England (which does not benefit from the same Government supported schemes as in Scotland and Wales). This is shown below.



This model will enable all types of intervention which address fuel poverty to be managed by a central (or regional) organisation. The central/regional body will work with partners to deliver the Government Fuel Poverty Strategy. Interventions could include gas connections, gas related efficiency measures (new boiler), Non-gas related efficiency measures (insulation, windows etc.) and income/debt advice and support.

Funding for this programme could see a blend of Government funds (National Infrastructure Programme) supplemented by Regulated Funds (e.g. GDNs) and Energy Company Funds (ECO or successor scheme). As an example, £15m-20m per network would create a funding “pot” of between £75-100m and enhanced with the additional funding from government schemes and ECO. This whole system approach would help eliminate the uncertainty and confusion customers experience when having to deal with individual organisations and provide a “one-stop shop” for identifying and coordinating delivery of the best technological solution for individual households.

The service could be further enhanced with an online platform e.g. Energy Loop³ which was a joint project funded by energy networks through the Energy Innovation Centre. This designed a portal and process to bring together funding with customer needs. This realises the value of the historic investment made by GDNs in technology and provide a broader service to non- fuel poor Customers.

We are trialling this model with partners in our West Midlands network through the remainder of RIIO-1. We will fund the trial ourselves through our Community Fund. We propose that it could be extended across all of England for RIIO-2 if successful and inform a more value adding national approach to supporting fuel poverty in RIIO-3.

See output case in the annex below

³ <https://theenergyloop.co.uk/>

Delivering our Customer Vulnerability Strategy

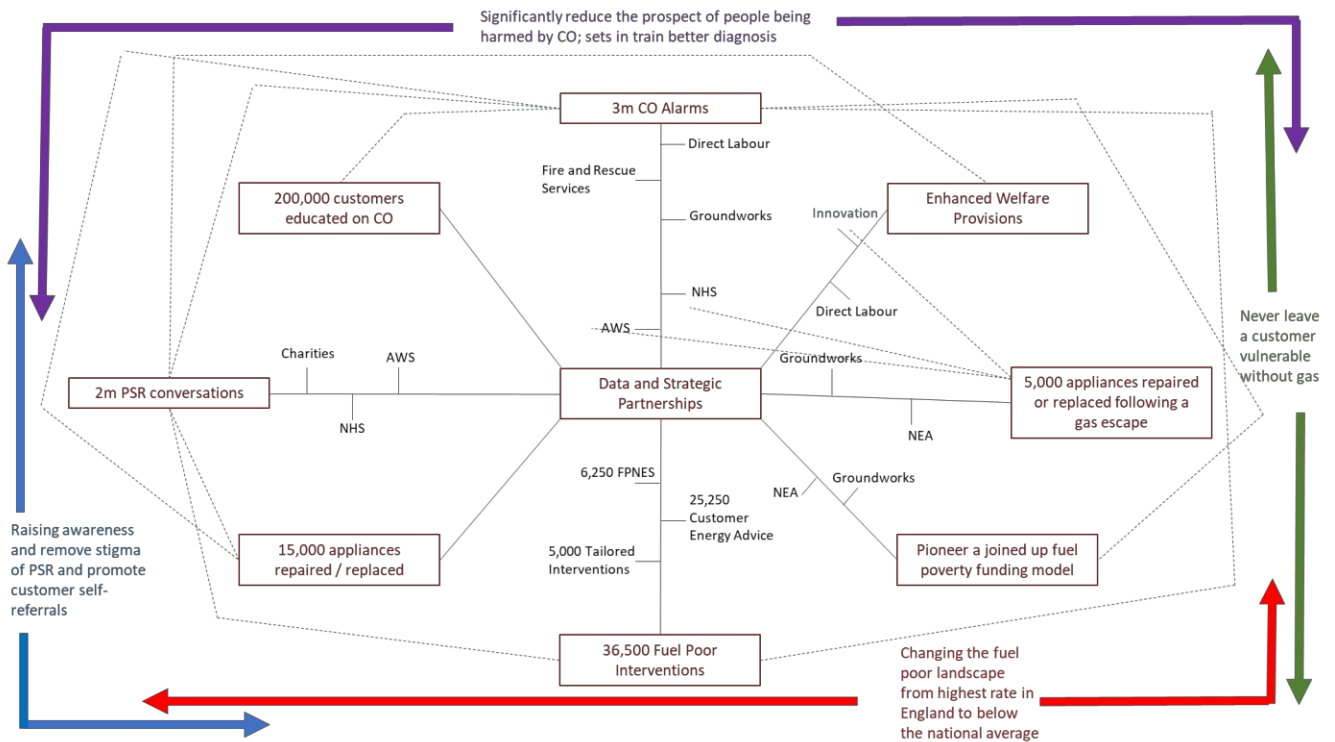
We have developed our commitments and evolved our strategy based on the feedback and insights we have received from our enhanced engagement programme. Customer and expert stakeholder feedback has been mainly consistent – ‘we would like Cadent to do more to support customers in vulnerable situations’. A comprehensive overview of our enhanced engagement programme is provided in Chapter 5 – Enhanced Engagement of our Business Plan and how we have used the insights to develop our commitments is explained in the output case annexes at the back of this strategy document.

We have responded to the feedback and have developed a far more ambitious and wide-ranging suite of commitments to deliver during RIIO-2. For example, during RIIO-1 we committed to deliver around 105,000 CO alarms and we will ultimately deliver in excess of 120,000. In RIIO-2, we are committing to deliver 3-million alarms (the majority installed to minimise the risk that they are not used in practice) with 3 fewer years to do so. A carefully considered delivery plan is therefore essential. The six parts of our ‘strategy to plan’ described above sit at the heart of our delivery plan. For example, having the right mapping tools and partnerships in place, with a reach, credibility and levels of customer trust to make them ideally placed to support our overall delivery. Equally, our governance model and enhancing the capabilities of our own employees and contractors to identify and support customers in vulnerable situations.

Our delivery plan has been considered and set out in detail in the output cases that sit in the annex of this strategy document. It has been important to us to consider a holistic delivery model that recognises the efficiencies that can be created by delivering commitments in a joined up and consistent manner that understands the interlink between different vulnerabilities. For example, customers living in fuel poverty are more at risk of harm from CO poisoning than other customers – they are less likely to have CO alarms or regular appliance services. Customers who are unaware of the PSR are far less likely to understand the range of additional welfare or fuel efficiency measures that are available to them and therefore we cannot rely solely on the PSR. These are just two examples of the significant cross-over between different types of vulnerability which often creates a compounding impact to those in these situations. The diagram below shows how we will join up our delivery approach, all overseen by a single Cadent leadership team to maximise the efficiency, effectiveness and reach of our delivery. The green dotted lines show some of the main links between delivery. For example, there is link between our delivering our range of fuel poverty interventions and providing customers with additional advice related to the risks of CO, distributing an alarm if required.

Data and our strategic partnerships sit in the centre of our model. It is these two aspects of our strategy that create the join between the various commitments. Examples of data improvements we have made in RIIO-1 include our **fuel poor predictor tool**, **CO hotspot analysis** and the improvements we’ve made to the PSR process. The four key customer outcomes (linked to our four commitments) are shown around the outside with a deliberate overlap and the specific commitments are described in red boxes. The strategic partnerships that we have in place or are working on currently are listed against the commitments and they repeat across various commitments to support the joined up delivery approach. The delivery model is shown below:

Figure 5: Our Holistic Delivery Model



How we propose to use the consumer vulnerability and CO-safety 'use it or lose it' allowance

In meeting the expectation levels of customers and stakeholders, we have tabled very stretching output targets across our customer vulnerability strategy. From a regulatory treatment perspective, this strategy is made up of:

1. Activities that form part of ongoing BAU activities that are designed to at least meet minimum vulnerability requirements proposed to be set out by Ofgem subsequently, and
2. Activities that go beyond BAU and so could form part of Ofgem's proposed 'use it or lose it' fund or be bespoke price control deliverables for Cadent.

The chart below sets out the commitments that have incremental costs within our vulnerability strategy. We have set out whether we believe the activities are part of BAU or beyond BAU. For the beyond BAU activities we have set out either:

- the social return on investment we have calculated; or
- the willingness to pay we have identified as part of our consumer value proposition through our engagement.

Figure 6: Incremental costs of the commitments within our customer vulnerability strategy (all costs in £m)

	Cost over RIIO2 (£m)	Base BAU	Beyond BAU	SROI/WTP Value	Ranking by SROI/WTP	Ranking by SROI/WTP per £ invested
CO						
100k alarms	£ 0.764	£ 0.764				
2.9m alarms	£ 22.156		£ 22.156	-£ 5.100	6	7
200k educated	£ 2.100		£ 2.100	-£ 0.900	8	8
100% partnerships	£ 0.410		£ 0.410	* covered in above	8	8
Repair /replace 15,000 appliances (CO)	£ 8.600		£ 8.600	£ 28.500	4	4
Fuel poverty						
6250 FP Connections	£ 15.122	£ 15.122				
5000 FP Interventions	£ 28.800		£ 28.800	£ 13.200	3	6
25250 Income & Energy advice	£ 3.800		£ 3.800	£ 48.100	2	1
New funding approach	£ -		£ -	In developing these options we considered the li		
Identifying your needs						
2m conversations (inc. over 80 partnerships)	£ 7.771		£ 7.771	£ 0.600	7	5
Front Line Training	£ 3.700		£ 3.700	* covered in above	7	
Going beyond						
Personalised welfare	£ 16.300		£ 16.300	£ 120.800	1	2
Never leaving a customer vulnerable without gas	£ 2.700		£ 2.700	£ 15.000	5	3
TOTAL	£ 112.223	£ 15.886	£ 96.337	£ 220.200		

Generally, these outputs have a linear relationship between the number delivered and the cost to deliver. For example, the unit cost per fuel poor intervention provided remains flat as more are delivered. This makes these output targets ideal candidates for 'use it or lose it' allowances, as we can accurately calculate the money to be returned to customers should we not hit the ambitious targets that we are aiming for.

Ofgem have set out a potential £30m fund for vulnerability proposals beyond business as usual with 25% of this reserved for collaborative work between the GDNs and the remainder apportioned by customer numbers between the GDNs. We have therefore estimated that this 'use it or lose it' fund for Cadent is around £11.5m which equates to roughly £0.7m p.a. for each of our four networks over RIIO-2.

As can be seen in the table above, we have identified initiatives which far exceed the proposed 'use it or lose it' fund. Our evidence suggests customers are willing to pay for these additional benefits through both quantitative and qualitative means and they deliver a positive social return on investment and this has been supported by expert stakeholders, including various charities associated with supporting customers in vulnerable situations.

We have shown a ranking of the benefits of the initiatives in terms of overall value and by value per £ invested which could be used to prioritise against the Ofgem mechanism. However, we would propose that all the commitments are supported as part of the RIIO-2 framework. For those beyond any common 'use it or lose it' fund, we would suggest they are treated as bespoke Price Control deliverables with a similar 'use it or lose it' approach.

We propose to assess delivery at the end of year 3 of the price control period, where we will have established the necessary partnerships, processes and experience to deliver the outputs in the most effective manner and, as such, will be confident over future delivery numbers. At this stage, if necessary, we will reforecast our delivery potential and return the value associated with any under-delivery.

Linking our ambitious customer vulnerability strategy with our Community fund

The Cadent charitable foundation is described in this Chapter 7 – Our Commitments in the outcome area Trusted to Act for our Communities. We are planning to use the fund during the remainder of RIIO-1 to test the SROI and deliverability of a number of the output commitments that we have listed above.

In 2019, we began to test the Enhanced Fuel Poor Interventions, going beyond the meter to never leave a customer vulnerable without gas and the pioneering approach to fuel poor funding across England proposals. This will provide the extra information to give increased confidence that our final proposals are accurate and deliverable in RIIO-2. During RIIO-2 we will continue to use the fund to deliver a number of innovative / additional solutions and services to customers in vulnerable situations, creating a continual link between it and our ongoing customer vulnerability strategy.

Introduction of an annual showcase event that we will host around customers in vulnerable situations

We recognise that many organisations face similar challenges to ourselves when supporting and empowering all customers in vulnerable situations, including those in fuel poverty. We have collaborated with others consistently during RIIO-1, especially to raise the awareness of vulnerability and the dangers of CO. The benefit of this collaboration is clear, with lessons learnt and ideas being shared, and often more joined up solutions being proposed and implemented.

To this end, we support the inclusion of a common reputational ODI for us to host an annual showcase event, which we will report on annually (against a common set of vulnerability service measures to be developed with other GDNs). This event will involve other GDNs, energy suppliers, DNOs, expert stakeholders (such as charities) and extend beyond the energy and utilities sector to encourage wider collaboration and idea generation.

Our approach to Innovation to support customers in vulnerable situations

Innovation in supporting and empowering customers in vulnerable situations is essential. It can help meet existing needs. For example, it can enable us to provide higher safeguarding standards and improve how we deliver support to fuel poor households. It can help us respond to future need e.g. changing social requirements as the population ages and to make the most of technological innovations to ensure no one is left behind as the energy system changes and evolves. It can also help us meet changing and rising expectations.

There are a number of examples of good practice relating to how organisations link their innovation and customer vulnerability strategies. We have responded to the relevant recommendations and learning from Sustainability First's collaborative Project Inspire – *Energy for All – Innovate for All's* report which was supported by Ofgem, BEIS, and Citizens Advice along with a range of other charities (see below).

The report acknowledges that network organisations require incentives to innovate in this space and there are a number of barriers to enabling benefits through innovation.

Recommendation	Description	Our action
<p>1. Identifying and sharing innovative practice</p>	<p>All parties, including companies, consumer and disability groups should build on existing work to consider what more they can do to identify and share vulnerability innovation and learning, including what doesn't work between suppliers, energy companies and disability/consumer groups, across sectors and internationally.</p>	<p>Support Ofgem's proposed annual showcase (new BAU)</p> <p>Continue to engage with expert organisations supporting customer with different additional needs</p> <p>Continue with strategically appointed charity partners</p> <p>Innovation days – started in 2019, bringing local innovators together with incentives to improve the way we serve different customer needs</p>
<p>2. Improving the vulnerability evidence base</p>	<p>Energy network should a) proactively monitor and research the experience of their vulnerable customers e.g. capture complaints data and satisfaction data broken down by key demographics. b) Develop effective and strategic working relationships with organisations working with vulnerable customers. This includes co-designing solutions to problems with those that experience them. C) Draw upon staff's experiences so that staff can become 'principle agents for change' d) Review how they evaluate the impact of vulnerability initiatives to see where improvements can be made. This should explain the benefits of approaches in terms of the customer experience, the business and wider societal benefits (both monetised and non-monetised)</p>	<p>Customer satisfaction scores (broken down by PSR)</p> <p>Complaints data broken down by PSR</p> <p>Centrally established Customer Vulnerability Team with network leads to gather, own and use key insights</p> <p>Continue to work with charities and experts to expand knowledge base</p> <p>Continue to measure the benefits of initiatives, through the SROI and other means</p>
<p>12 & 13. Embedding inclusivity into energy company culture</p>	<p>To be most effective, energy networks must embed vulnerability into their organisational structures.</p> <p>All energy companies should ensure they have a clear 'pathway' or 'flightpath' for ideas to flow from all levels of the company and from outside the organisation to a decision, and, if successful, to delivery.</p>	<p>We have committed to and have already taken steps to:</p> <ul style="list-style-type: none"> - Develop this consumer vulnerability strategy and will update this regularly in consultation with key stakeholders and customers. - Design services inclusively – 'for all' - Train and empower staff and contractors so that they have the flexibility, autonomy, skills and 'confidence to care' and innovate, supported by our new devolved regional structure

		<ul style="list-style-type: none"> - Have a named Director responsible for consumer vulnerability and Board vulnerability champions. - Cross departmental mechanisms to share insight, ideas and facilitate decision making <p>Consider how we can better:</p> <ul style="list-style-type: none"> - recognise staff for their successful vulnerability innovations – big and small - develop mechanisms to capture ideas from frontline staff and partner organisations
<p>17&18 Ensuring a smarter future works for all consumers</p>	<p>Companies should explore how they can improve service delivery to customers in vulnerable situations through making better use of data. This includes working with organisations such as Digital Catapult and Open Data Institute to explore how they can open up anonymised datasets in a timely, secure, privacy friendly way to enable all parties to innovate and collaborate around vulnerability issues.</p>	<p>We will continue to evolve and use our CSA</p> <p>Expand the use of the fuel poor identification tool owned and operated by AWS</p> <p>Explore additional data avenues, including the application of smart meter data to inform decision making</p>

We tested a number of options with customers during our Business Options Testing phase of enhanced engagement in summer 2019. The options ranged from us investing in our own research and development projects to doing very little in this space at all. The feedback we received from general customers, those in fuel poverty and customers living in various vulnerable situations was very consistent; they saw our role as ‘fast followers’ but not as leaders in innovation. On further exploration it was clear that whilst they see great value from us seeking out innovate solutions that others have developed and even tasking innovation organisations to solve known problems, they did not want us to spend money on our own research and development programmes. They expect us to be inquisitive to seek new solutions and once they are identified, to adopt them quickly, just as we did with locking cooker valves (a solution to help customer living with dementia remain independent in their homes). We will continue to play a leading role in process innovation, such as the role we will play in developing a truly pioneering approach to funding arrangements for supporting households in fuel poverty, as described above

Our partnership approach supports our innovation strategy, allowing us to learn from a much wider pool of research, best practice and expertise. For example, in November 2019, working alongside the EIC, we hosted an innovation day with our Alzheimer’s partners. We invited 13 local innovators to understand challenges of different types of customer and challenged them to consider options they could develop that we could look to fund through our innovation funding. We will continue to run and encourage our partners to lead these sessions to drive targeted innovation to improve customer experiences. Further detail of our innovation strategy can be found in Chapter 8 of our Business Plan.

Ofgem’s Consumer Vulnerability Strategy 2025

Ofgem’s Consumer Vulnerability Strategy sets out not only its own priorities to 2025 but also the outcomes it expects to see delivered for consumers by energy companies. The approach is based on extensive engagement. Below we map how we are responding to Ofgem’s outcomes as they apply to us as a gas network company (as some are energy supplier focussed) and consequently many of the views published as part of this consultation:

Priority area	How responding
<p>Improving identification of vulnerability and smart use of data</p> <p>Outcome 1A: We want energy companies to act swiftly to provide support to the people who need it. To ensure they can do this we want them to regularly maintain and proactively update the data they hold on their customers including their Priority Services Register data</p> <p>Outcome 1B. We want to see evidence that there has been an improvement to support consumers to self-identify.</p> <p>Outcome 1C: We want to see better use of data across regulated sectors to enable more holistic and targeted support for consumers in vulnerable situations</p>	<p>See our ‘Identifying individual needs’ output case in the annex below</p> <p>We explain a number of approaches to enable us to identify those with additional needs, including the leading role we will play in establishing a single PSR across energy, water and telecoms. We will have 2,000,000 direct conversations with customers to inform them not only of the PSR, but also what it covers and the extend and transitional characteristics of vulnerability. Our partnership approach will provide even greater input to us to identify needs and allow us to respond efficiently and effectively</p> <p>Our awareness campaigns will cover traditional and non-traditional routes to get to as many customers as we can during RIIO-2, with at least 2,000,000 direct face to face conversations that will inform customers how to self-identify and teach others to do the same</p> <p>We will lead the approach to create a single PSR across energy, water and telecoms. Our work with AWS and other GDNs will continue through means such as our annual showcase event to ensure that we are sharing good practice</p>
<p>Supporting those struggling with their bills</p> <p>Outcome 2A: We want consumers to have access to affordable energy.</p> <p>Outcome 2D: We want new gas connections for fuel poor consumers who are not on the gas grid to be better targeted, to make sure those who need it most can benefit from the scheme and save on their heating bills</p>	<p>We are committing to over 36,000 targeted interventions to support households out of fuel poverty permanently</p> <p>Our fuel poverty identification tool supports this and our approach to a set of different household interventions will allow us to target on the FPNES scheme only where it is the most valuable intervention</p>

<p>Driving significant improvements in customer service for vulnerable groups</p> <p>Outcome 3A: We want energy companies to have a corporate culture that focuses their efforts to identify and support consumers in vulnerable situations.</p> <p>Outcome 3B: We want the industry have systems to better target and to tailor their customer service to consumers with specific needs.</p> <p>Outcome 3D: We want consumers to be effectively identified as eligible for priority services; and for them to receive consistent and high quality priority services in a timely way.</p>	<p>We have established an operating approach and governance model that focuses the organisation around setting the standards that ALL OF our customers love and others aspire to. Our 6-part customer strategy has been established to foster a new culture of customer centricity across the organisation, through regionally aligned operations, improved technology, enhanced communication methods and truly aligned incentives</p> <p>Our partnership approach will supplement our data management strategy to ensure that we are targeting the right intervention to each circumstance we face and we will measure the benefits through our social return on investment approach (along with other methods described in our strategy document)</p> <p>We will train all of our customer facing teams, including those working for partner organisations to identify potential cause of vulnerability and have effective conversations with customers. We will work across the industry to improve the timeliness of data flows across the PSR.</p>
<p>Encouraging positive and inclusive innovation</p> <p>Outcome 4A: We want all consumers (particularly those in vulnerable situations) to have access to affordable energy and suitable services. We want products and services to be designed to meet the needs of a wide range of consumers (including the most vulnerable).</p> <p>Outcome 4B: We expect suppliers and networks to demonstrate practical innovative measures to support consumers in vulnerable situations.</p>	<p>Our strategy is set out to achieve just this and will allow us to do so through our 6 strategy to plan initiatives and our four commitment areas. Our strategy is to set the standards that all of our customers love and therefore seeking to understand specific needs and respond to them is encompassed right across the outputs that we have built into our 'Quality Experience' customer outcome area. See Chapter 7.3 for more information</p> <p>Innovation is a core part of our customer vulnerability strategy – it is described above and also in our Innovation Strategy – see Chapter 8 of our Business Plan.</p>

<p>Working with partners to tackle issues that cut across multiple sectors 5A: We want to achieve greater understanding and consistency across essential services markets for more joined up action to improve the experience of consumers in vulnerable situations.</p>	<p>Our approach to partnerships has evolved over RIIO-1. One of our 6 'strategies to plan', which are the building blocks of our strategy describes how we will form the right partnerships to enhance the service offerings that we can provide and continually support us in understanding needs better to continue to improve the services that we operate. This is described in this strategy document above</p>
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Annex 2: Output Cases Related to our Customer Vulnerability Strategy

- Appendix 07.03.09 – Identifying your needs and joining up support services
- Appendix 07.03.10 – CO awareness
- Appendix 07.03.11 – Tackling affordability and fuel poverty
- Appendix 07.03.12 – Going beyond to never leave a customer vulnerable without gas

Appendix 07.03.09

Identifying your needs and joining up support services

This output case supports our overall approach to identifying and understanding the needs of all our customers to help keep them safe, warm and independent in their homes via direct Priority Service Register (PSR) awareness conversations, partnership working and training our front-line staff.

In RIIO-1, Customers in Vulnerable Situations (CIVS) were protected by Standard Special Licence Condition D13 Provision of services for specific domestic customer groups and Guaranteed Standard of Performance (GSOP) 3 – Heating and cooking facilities for priority domestic customers. During RIIO-2, the following regulatory enhancements will be made to these minimum standards:

- Increased compensation payments for GSOP 3, together with payments being made automatically.
- Licence condition D13 will be updated by Ofgem and will become more principles based to ensure fair treatment of customers across all networks.
- An annual Ofgem led best practice sharing event will take place with all Gas Distribution Networks (GDNs).

During RIIO-2 we want to continue our work over and above the minimum standards and stretch ourselves by delivering the following commitments for CIVS:

- Have two million direct conversations to raise awareness of the PSR, delivered via our front-line emergency services and partnership working across our network footprint.
- Form over 80 strategic, programme and project partnerships to utilise their trusted expertise in accessing harder to reach customers, building on the strong foundations we have set in RIIO-1 with organisations such as Maggie’s and the Royal National Institute of Blind People (RNIB).
- Innovate to deliver new products and services for CIVS and ensuring that our front-line customer facing staff are trained to identify, understand and act on any situation of vulnerability they may come across.

We will deliver:

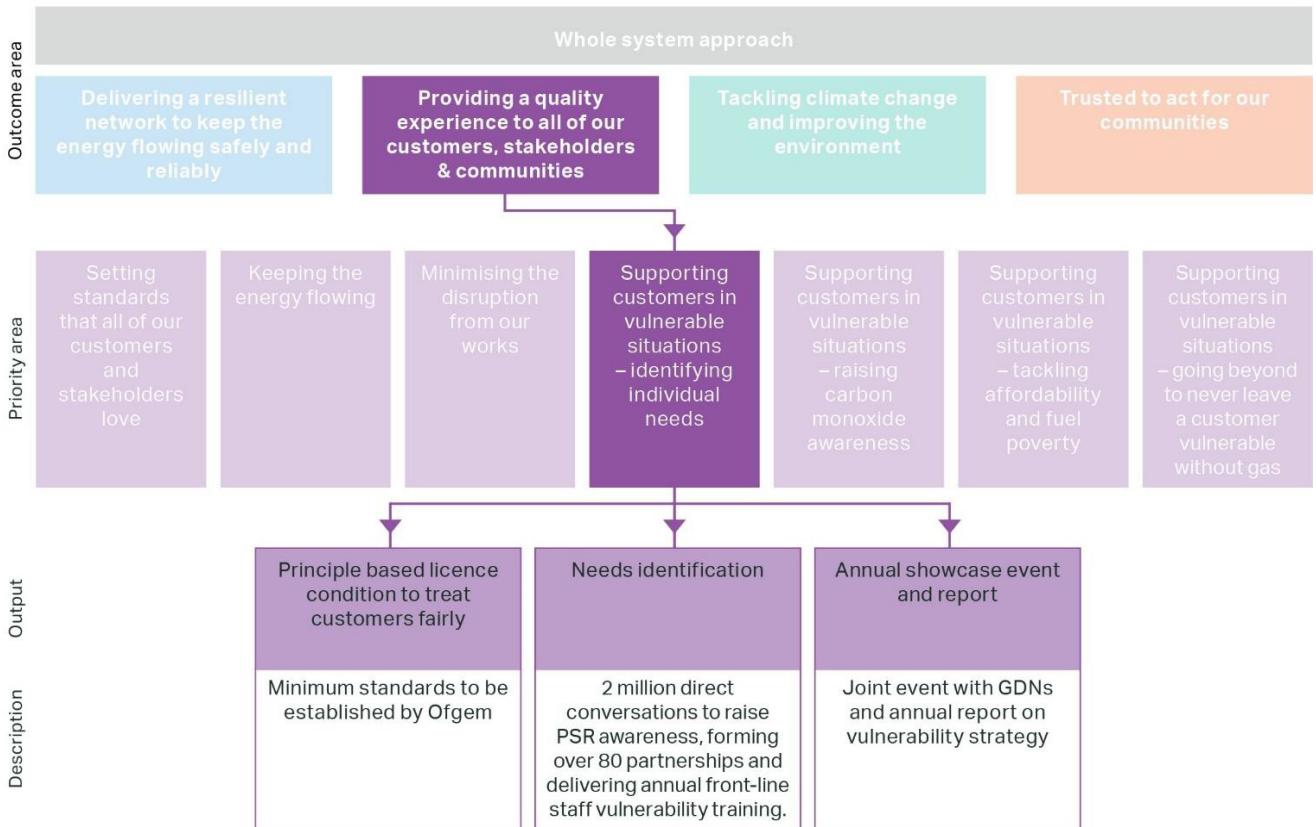


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How we have developed our proposals?

1. **We considered our vision statement** – In order to deliver standards that all of our customers love, we need to consider the specific needs of different groups of customers. In order to consider these needs, we need to be aware of them and therefore put in place processes that enable this awareness to be shared and ultimately acted on.
2. **We reviewed how we currently operate in order to provide these standards** – Customer awareness of the Priority Services Register (PSR) is a key issue that we have tried to address through the leading role we have played in developing a single PSR across the industry and in defining vulnerability.
3. **We liaised with experts** from government, charities and other organisations working with different aspects of vulnerability and found out that, despite improvements noted across RIIO-1, awareness remains a significant challenge.
4. **We tested customers' and experts' awareness levels** and confirmed that these are at around 26%, which is very consistent with the analysis completed by Ofgem and other external parties.
5. **This provided us with a clear problem statement** – How do we raise the awareness of the PSR so that customers can register and enable us to proactively tailor our services to better support specific needs?
6. **We looked at best practice** on how other organisations and industries are tackling similar challenges to those we face.
7. **We worked with experts in our target engagement phase** to assess ideas of how we could improve awareness of the PSR along with discussing other aspects of improving how we support CIVS (which fed into other commitment areas).
8. **We asked CIVS the same set of questions** – It was clear that face-to-face conversations (via a trusted source in the eyes of the customer) are seen as the most valuable way of effectively informing customers and communities of the PSR, its purpose and how to register. This helped us define potential action statements.
9. **We developed options** – We asked customers and experts to assess options around our approach and the volume of conversations we should have to raise the awareness of the PSR, based on the relative merits they saw and the difference each option would make to their bills.
10. **We considered the range of research and analysis** – We identified that while there was a consistent view on the approach, volume of work and willingness to pay from customers and experts, there was a challenge on how we could deliver this. This was one of seven commitments requiring a focussed session with Cadent's four RIIO Directors to consider all the feedback and make a decision by applying a relative weighting to the sources of data available.
11. **We considered how we could best enable face-to-face conversations with customers** and realised that, without support from partner organisations, we could not achieve the targets we had determined through our triangulation process.
12. **We defined our commitments** – We will adhere to Ofgem's new licence obligation to treat all domestic customers fairly and have committed to the following commitments above the minimum standard:
 - Deliver 2,000,000 PSR awareness conversations.
 - Form over 80 partnerships to support CIVS.
 - Provide annual vulnerability awareness training all our customer-facing staff.

13. **We confirmed our proposal in our October plan** and have tested this along with other aspects of the plan in our acceptability-testing process.
14. **We are seeking £7.7m in funding to deliver this** – However, we have calculated a social return on investment of £8.5m during RIIO-2.
15. **What will the future look like after we embed our RIIO-2 commitments?** – CIVS are no longer seen with a stigma associated, people actively engage with the one utility PSR and companies have a set of services for all that customers are able to select services based on their individual needs.

The tables below summarise our commitments in this area:

Our commitments

Table 1 Summary of our commitments

Principles based licence condition to treat customers fairly	
Common / Bespoke	Common
Output type	Licence Obligation
Comment	Minimum standards to be established by Ofgem
Target	N/A
Cost implications (annual)	N/A
Incentive range	N/A
Net Consumer Value Proposition (CVP)	No financial CVP, qualitative benefits only

PSR awareness conversations	
Common / Bespoke	Bespoke
Output type	Price Control Deliverable
Comment	Direct PSR awareness conversations through existing interactions and strategic partnerships
Target	2 million direct awareness conversations over RIIO-2
Cost implications (annual)	£0.4m
Incentive range	N/A
Net CVP	£0.6m

Partnerships	
Common / Bespoke	Bespoke
Output type	Price Control Deliverable
Comment	Develop strategic, programme and project partnerships to deliver enhanced vulnerability services
Target	Develop over 82 partnerships over RIIO-2
Cost implications (annual)	£0.4m
Incentive range	N/A
Net CVP	No financial CVP, qualitative benefits only

Front line staff vulnerability training	
Common / Bespoke	Bespoke
Output type	Price Control Deliverable
Comment	Annual vulnerability training for all front line staff
Target	c.3000 front-line staff trained every year
Cost implications (annual)	£0.74m
Incentive range	N/A
Net CVP	No financial CVP, qualitative benefits only

Annual showcase event and report	
Common / Bespoke	Common
Output type	Output Delivery Incentive (R)
Comment	Joint event with GDNs and annual report on vulnerability strategy
Target	N/A
Cost implications (annual)	N/A
Incentive range	N/A
Net CVP	No financial CVP, qualitative benefits only

1. Defining our customers' needs



1.1. What is the area?

Our vision is to set the standards that all of our customers love, and this means that we must understand, plan for, and respond to the needs of customers in a variety of vulnerable situations. Understanding and identifying the needs of all our customers, recognising that no two customers are the same, is the one of 6 foundations of our customer vulnerability strategy.

While undertaking our works we may come across, or create, circumstances where customers are in vulnerable situations, and therefore it is essential that we provide accessible services to all, meeting their particular, and often greater, needs. It is important that our customers are aware of the bespoke and personalised services we are able to provide through their registration on the PSR so that we can help to keep them safe, warm and independent in their homes. The PSR is a powerful mechanism to identify the needs and tailor services according to these needs. However, it is only as effective as the number of people who are registered and for that they must know it exists.

We must also support colleagues in duty of care as a natural part of their everyday experiences, ensuring that actions are respectful and meaningful and deliver positive outcomes that connect customers with relevant services available in their area.

Through our experience in RIIO-1, we recognise the substantial benefits of working with expert partnerships to help identify, understand and deliver services to CIVS. This must be continued and expanded to deliver further benefits in RIIO-2.

1.2. Why is it important to customers and stakeholders?

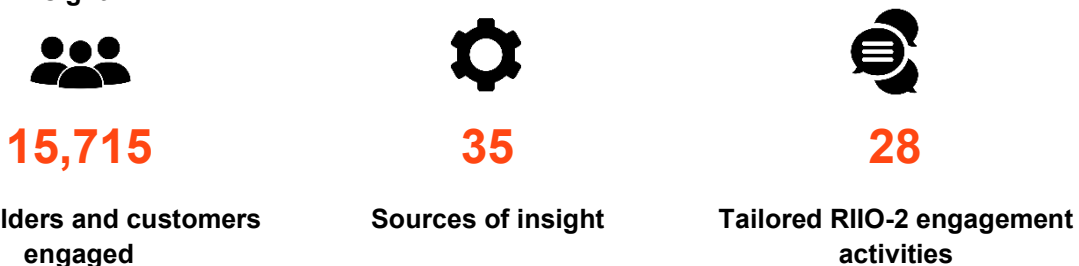
There is overwhelming support from customers and stakeholders for us to raise awareness and enhance the services we currently provide for CIVS. Despite great progress made with the PSR in RIIO-1, there is still a significant need to increase general awareness of vulnerability and the support available. There is an opportunity in RIIO-2 to use our existing interactions and work with a wider range of partnerships to raise awareness levels.

Our customer vulnerability strategy underpins our mission to safeguard customers and all who live and work in the communities we serve. Entering over 400,000 customer properties a year via our emergency work alone, we are often best placed to identify customers who find themselves in situations of vulnerability and may need extra support.

Actions to identify and support CIVS are generally delivered by front line-staff, including contact centre staff who communicate with customers daily. Training them on how to understand and identify vulnerability, including an understanding of the services available for each need, is invaluable.

1.3. What insights are shaping our thinking?

Sources of insight



We engaged with the following customers and stakeholders to discuss and understand how we can identify needs and join up support services.

Table 2 Customers and stakeholders engaged

Customers	Partners and Charities/Expert Stakeholders
<ul style="list-style-type: none"> • Domestic customers • CIVS • Fuel poor customers • Business customers • Future customers • English as a second language (ESL) customers • Non-English-speaking customers • Employees 	<ul style="list-style-type: none"> • Maggie's Trust • Disabled Living • Queen Alexandra College • Royal Association for Deaf people • Royal National Institute of Blind People • Carers Trust • Alzheimer's Society • National Energy Action • Rural England Community Interest Company • Citizens Advice • Sustainability First • Trussell Trust • Shelter • Sense UK • Catch 22 • Age UK • Islington Chinese Association • Blind Veterans UK • Macmillan Cancer Support • Spinal Injuries Association • HEET • MS Society • Part-sight • Groundwork • Hackney Playbus
Industry and Community Services	Forums
<ul style="list-style-type: none"> • Gas Distribution Networks • Ofgem • Energy Networks Association • Coventry University • Yorkshire Energy Solutions • Northumbrian Water • Institute of Customer Service • Community Action Northumberland • Metropolitan Police • South Yorkshire Fire Service • Essex County Fire and Rescue Service • Leicestershire Police Against Scams 	<ul style="list-style-type: none"> • Chairing the Safeguarding Customers Industry Working Group • Membership of the National Mental Capacity Forum

We engaged with a wide range of customers and stakeholders to understand how we can better identify their needs, focusing on how we can enhance our approach to making support available to CIVS. We have summarised each activity, the questions asked (where applicable), the numbers involved, and a robustness score based on the following criteria:

Criteria	Robustness score		Relevance
The score shown is based on a combination of the robustness of the source information (judged on whether it was recent, direct and representative) and the relevance to this area.	<1.5	One or zero criteria met	Limited relevance
	1.5 - 2.0	Two criteria met	Significantly relevant and contributory
	>2.0	All criteria met	Highly relevant and contributory

Table 3 Engagement activities

Phase	Date	Source name	Source description	Questions asked	# of stakeholders	Score
Historical Engagement	Feb-18	Vulnerability survey	We sent a survey on Cadent's proposed definition of vulnerability to a range of stakeholders. This aimed to test our definition of vulnerability and identify any areas we had not captured. The majority of respondents agreed with our definition.	Respondents were shown each element of our definition, asked if they agreed and then were offered the opportunity to provide free text comments and suggest changes.	26	2.0
	2018	London Collaboration forum - SGN & National Grid	We held a workshop with stakeholders in our London Network, including other utilities, charities, Local Authorities and Emergency Services. The purpose was to share the work we are doing on street works and customers and community and tableside feedback from stakeholders.	Attendees were shown our plans for street works such as no-dig techniques and asked to discuss the outcomes we should try to deliver. Following this, they were introduced to our plans for supporting those who need help the most and those in fuel poverty and asked to comment.	47	1.5
	Various 2017-18	Have your say employee consultation - 2017/18 (Report also includes themes from 2016/17)	We conducted an annual online survey of employees and external stakeholders to better understand their priorities for the year.	Respondents were asked for their reviews of our engagement with stakeholders and how this could be improved. They were then asked about our organisational objectives for the year and what our priorities should be.	971	1.0
	May-19	Research by Balisha Attalia, Coventry University	A Coventry University student performed some primary research, aimed at 18 - 24 year olds, to explore services that Cadent could provide to customers both in the home and the community and services that would attract 18-24 year olds.	Participants were asked if they knew what proportion of their gas bill went towards the provision of Cadent's services. Participants were also told of additional services that Cadent provides such as carbon monoxide alarms and other support for vulnerable customers and asked how important they felt they were an whether Cadent was the appropriate organisation to provide them. Finally, participants were asked if there were any other free services that they would like Cadent to provide to customers in the home and community.	75	2.0

BAU Insights	Aug-18	Ofgem's RIIO-2 Customer and Social working group on 30 Aug 2018	We discussed fuel poverty with key industry players and the regulator at Ofgem's Customer and Social Issues Working Group. There were circa 12 attendees at each working group.	N/A	12	1.0
	Feb-19	Ofgem future of energy conference	We attended Ofgem's Energy Conference.	N/A	N/A	1.0
	2019	UKERC report: Paying for energy transitions	Our views were informed by the UKERC's report 'Paying for energy transitions: public perspectives and acceptability.'	N/A	N/A	3.0
Discovery	Nov-17	2017 regional stakeholder workshops	We held four workshops in different regions to seek feedback from key stakeholders on the early development of our business plan. Each workshop began with a short presentation, followed by roundtable discussions. Electronic voting was also used to ask stakeholders about preferred options.	The workshops explored a number of topics, including: safeguarding (e.g. PSR awareness, partnerships and innovation opportunities); the future role of gas and the decarbonisation of home heating. Cadent's general approach to its business plan was also discussed, for example the importance and coverage of the four outcome areas identified, the extent to which the plan should respond to the needs of specific customer groups or regions.	127	2.5
	Sep-18	Deliberative workshops	We delivered full day deliberative workshops in each of our regions to discuss what services customers find important, find our customer expectations of GDNs and gather feedback on our (at the time) four draft customer outcomes. The sessions began with information-giving and building knowledge of Cadent, then eliciting participants' views of services and priorities.	Participants were asked about their awareness of Cadent and expectations of a GDN. Participants were also asked for their views on the four draft outcomes in Cadent's business plan: keeping your energy flowing safely, reliably and hassle free; protecting the environment and creating a sustainable energy future; working for you and your community safeguarding those that need it most; value for money and customer satisfaction at the heart of all our services. The aim of the discussions was to shape these draft outcomes and identify any gaps.	206	3.0

Discovery	Oct-18	CIVS report	We interviewed CIVS and professionals working to support them (e.g. district nurses). We selected participants based on PSR needs codes and recruited via community organisations.	The interviews sought to understand what services were important to CIVS and what expectations such customers had of Cadent to safeguard them and accommodate their specific circumstances. Participants were also asked their views of the four draft outcomes in Cadent's business plan. They were asked if they are aware of the PSR.	20	3.0
	Oct-18	Focus groups with hard to reach groups	We held focus groups with individuals considered 'hard to reach' in each of our regions. Each group contained 8-10 participants and lasted two hours. Participants covered three groups: urban customers with English as a Second Language, Future Generations and Non-Customers (predominantly from rural areas). These built on our previous deliberative workshops, whose voices could otherwise become 'lost within the crowd'.	Participants were asked what they expected of Cadent. The four draft outcomes for the business plan were shared with participants and they were asked for their views on these, what they wanted to see from Cadent and whether there were additional outcomes that Cadent should include.	57	2.0
	Oct-18	Domestic survey	We ran an online survey of a representative sample of our domestic customers (and non-customers). This aimed to test the findings of the earlier deliberative workshops and focus groups.	Participants were asked closed questions on 14 topics we could cover in the business plan (e.g. minimising leaks, affordability) and asked to rate how important they are. They were then asked more open questions about the level of importance and whether anything was missing from the list of 14. Finally, they were asked a multiple-choice question on their preferred engagement methods for the future.	2,332	3.0

Discovery	Feb-19	ENA and Accent RIIO-2 stakeholder engagement (decarbonisation)	<p>A broad range of stakeholders from across the country, across different areas of the sector and representing a range of organisations were brought together by all GDNs to understand their views of how the gas networks should individually and collectively support the decarbonisation of heat through their RIIO-2 business planning. Most stakeholders preferred taking a broad definition of 'whole systems' and wanted future-proofed assets and decision-making with the longer-term end goal in mind.</p> <p>But they emphasised the need for urgency in putting the stepping stones in place to reach decarbonisation targets.</p>	<p>Stakeholders were asked what a whole energy system approach should look like, and what gas network RIIO-2 business plans should focus on in the context of decarbonising the gas system. The impact on CIVS, collaboration between gas networks and the funding of, and barriers to, decarbonisation were also discussed.</p>	37	2.0
	May-19	RIIO-2 employee engagement, May 2019	<p>We engaged with 783 of our employees through a survey to test the latest RIIO-2 business plan proposals to ensure that the plan was robust, fit for purpose and accurately represented what our customers want from us. Employees were asked for their views both as customers and as subject matter experts. Participants were asked for their priorities from their perspective as customers. Then, as subject matter experts, they were asked to rate, and provide their views, on different service offerings (Customer Contact, Emergency Response and Repair, Domestic Connections, Commercial Connections and Mains Replacement).</p>	<p>Employees were asked for their views both as customers and as subject matter experts. Participants were asked for their priorities from their perspective as customers. Then, as subject matter experts, they were asked to rate, and provide their views, on different service offerings (Customer Contact, Emergency Response and Repair, Domestic Connections, Commercial Connections and Mains Replacement).</p>	783	1.0

<p>Discovery</p>	<p>May-19</p>	<p>Business interviews</p>	<p>We commissioned Traverse to interview 18 businesses with a view to understanding specific business customer wants and needs in order to inform our proposed services for our RIIO_GD2 business plan. The interviews explored the general characteristics of the business and its gas use before establishing their existing knowledge of Cadent. The effects of interruptions and business expectations were explored. In addition, views on delivering our four outcomes were also discussed: delivering a safe, resilient network; supporting the energy transition; providing a high quality and reliable service; and acting in a fair, transparent and responsible way.</p>	<p>The interviews explored the general characteristics of the business and its gas use before establishing their existing knowledge of Cadent. The effects of interruptions and business expectations were explored. In addition, views on delivering our four outcomes were also discussed: delivering a safe, resilient network; supporting the energy transition; providing a high quality and reliable service; and acting in a fair, transparent and responsible way.</p>	<p>18</p>	<p>2.0</p>
<p>Targeted</p>	<p>Feb-19</p>	<p>Cadent Customer Forum Safeguarding</p>	<p>The first round of customer forums was held at three locations (London, Manchester, Birmingham) involving 96 customers. The forums are designed to be ongoing conversations with customers, with engaged discussions around the role of Cadent within society. The first customer forum focused on safeguarding and supporting CIVS to inform these sections of the RIIO-2 business plan. Within these themes, we explored customer expectations and priorities.</p>	<p>Customers were asked what they expected from Cadent in relation to safeguarding, how Cadent should help CIVS. The forums also sought to explore customer priorities for safeguarding and the reasons for that prioritisation.</p>	<p>96</p>	<p>3.0</p>

Targeted	May-19	Cadent customer forums: Interruptions and Reinstatements	The third round of customer forums was held at four locations (Ipswich, London, Manchester, Birmingham) involving 104 customers. The forums are designed to be ongoing conversations with customers, with engaged discussions around the role of Cadent within society. The third customer forum focused on planned and unplanned interruptions and public and private reinstatements to inform these sections of the RIIO-2 business plan. Within these themes, we investigated how customers are impacted and what level of customer service they think we should provide.	Customers were guided through different questions about the current service during planned and unplanned interruptions and new ideas Cadent were considering around: communication, length of interruption, provisions and timeslots to get gas back on. Discussions on public reinstatement focused on: impact of public reinstatement on customers, communication, and multi-utility working. Discussions on private reinstatements focused on the quality and duration of works.	104	3.0
	May-19	Stakeholder research	Accent carried our research on behalf of all the GDNs to understand how well the needs of CIVS are met by GDNs; and assess if additional/ revised GSOPs specifically for CIVS might be required. The research included a desk review of existing evidence and 16 telephone interviews with stakeholders working with or in the interests of CIVS.	The desk review included assessment of reports available from GDN research, GDN strategies regarding CIVS and reports from other bodies working in the interests of these customers. Interviews looked to understand stakeholder views on vulnerability, the current GSOP targets and performance levels and if any improvements could be made. They also explored the potential for new GSOPs.	16	3.0
	Jun-19	CIVS, Phase 2	We commissioned Traverse to engage with 37 CIVS and professionals working with such customers to understand their needs and preferences to support our business planning process. The overarching key finding was that CIVS are individuals and, as such, have individual needs and preferences and should be approached on a need's basis. Organisations interviewed included, Maggie's Trust, Age UK and Disabled Living.	The interviews sought to understand the needs and expectations of Cadent to safeguard CIVS and accommodate their circumstances. Topics covered included identification, the PSR (including awareness levels), partnerships, alternative cooking and heating solutions during interruptions, safety in the home, tailored services, engagement and communication.	37	3.0

Business Options Testing	Aug-19	Workshops with ESL and non-English speakers, Traverse	We commissioned Traverse to hold three workshops with ESL and non-English speaking customers: 22 Polish-speaking participants with English as a second language and 9 Bengali speaking participants. During this session we asked customers to tell us what role they thought that we should play in relation to carbon monoxide safety, provisions during an interruption and responding to climate change. They agreed that communication was critical with respect to interruptions. For provisions, all agreed oil filled radiators were important, but there were interesting differences too: the Bengali group prioritised hot meal vouchers & kettles, both given low priority by the Polish group which favoured shower access & hot plates. They confirmed that they believed, we as other big businesses should be acting responsibly and seeking to reduce our carbon footprint. The specific intention of this session was to ascertain the views of a different (typically hard to reach) group of customers to check if their views were consistent with other customer segments.	Customers were asked about their priorities. We also sought to understand their views on our business options in relation to carbon monoxide, provisions during interruptions, and decarbonisation.	31	2.5
	Aug-19	4 stakeholder interviews, Aug 2019	We conducted stakeholder interviews with Rural England CIC, Disabled Living, Queen Alexandra College (for people with disabilities) and the NEA.	We asked them for their views of how we could raise awareness of the PSR	4	2.5

Business Options Testing	Aug-19	CIVS engagement, Traverse	<p>We commissioned Traverse to engage with 65 customers in vulnerable circumstances, through deliberative workshops and telephone interviews to understand their views on options for our business plan in relation to the protection of CIVS.</p> <p>The option with the highest target delivery levels (option 3) was chosen for raising awareness of the PSR and charity partnerships. Both options 2 and 3 were popular for staff safeguarding training and using innovation to support customers. The specific intention of this session was to ascertain the views of a different (typically hard to reach) group of customers to check if their views were consistent with other customer segments.</p>	<p>Participants were asked about their priorities. We also sought to understand whether business options for a number of commitments were ambitious enough and identify and understand reasons behind their preferences. The business options discussed related to PSR awareness, partnerships with other organisations, training of Cadent staff, innovation around new technologies and services, the duration of, and provision of services during, interruptions and supporting CIVS.</p>	65	3.0
	Aug-19	Workshops with customers in fuel poverty, Traverse	<p>We commissioned Traverse to engage with 83 customers in fuel poverty at deliberative workshops in Wolverhampton and Peterborough to understand their views on options for our business plan in relation to a number of areas of relevance to customers in fuel poverty or vulnerable situations. The option with the highest target delivery levels (option 3) was chosen for each of carbon monoxide (CO) awareness & action, priority safety checks and fuel poor solutions (including income & energy advice). The specific intention of this session was to ascertain the views of a different (typically hard to reach) group of customers to check if their views were consistent with other customer segments.</p>	<p>Customers were asked about their priorities. We also sought to understand their views on our business options in relation to carbon monoxide, proactive safety checks, addressing fuel poverty, PSR awareness, the length of, and provisions during interruptions.</p>	85	2.5

<p>Business Options Testing</p>	<p>Aug-19</p>	<p>Cadent customer forum, round 5, Traverse</p>	<p>We held our fifth customer forum in Ipswich, London, Birmingham and Manchester with 130 participants to get customers' views on their priorities on a range of issues. This cross section of customers discussed with us various options (some proposed by us, some suggested by them) in a deliberative style session. Key topics discussed included: minimum standards and compensation; options for raising PSR awareness; interruptions - both acceptable length and appropriate provisions; supporting CIVS; options for Cadent's objective to become a carbon neutral business, the merits of connecting off-grid communities; and roadworks information and communication.</p>	<p>Participants were asked questions about a range of topics. On minimum standards, customers were asked whether current standards and levels of compensation were appropriate. With respect to PSR awareness, customers were asked about their preferred package of options. For interruptions, we discussed which provisions customers feel Cadent should provide as a core package and how customers would like to be informed of the availability of those provisions as what an acceptable duration for interruptions was. We also explored if there is an appetite for Cadent's engineers to be trained to do minor pipe and appliances repairs. On environmental options, we discussed Cadent's commitments around becoming a carbon neutral business and the connection of off-grid communities. Finally, we discussed which communications methods customers prefer with respect to roadworks.</p>	<p>130</p>	<p>3.0</p>
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<p>Business Options Testing</p>	<p>Aug-19</p>	<p>Public consultation, BOT, qualitative phase, Traverse</p>	<p>We commissioned Traverse to conduct a survey of 2,605 members of the public to understand views on certain aspects of our business plan in each of the 4 outcome areas (environment, quality experience, trusted to act for society and resilience). The survey revealed strong support for utilities working together to minimise disruption and for outstanding customer service, as well as providing useful information on the relative importance to customers of different types of information and different environmental initiatives.</p>	<p>Participants were asked questions to understand their views and preferences on issues within each of the four outcome areas. On resilience, customers were asked which one single improvement we should make to reduce disruption the most. In relation to a "quality experience", customers were asked what level of service they'd love the most and how much they'd be willing to pay to ensure a vulnerable customer could get enhanced help if their gas stopped working. On the environment, customers were asked their relative preference for initiatives to achieve carbon neutrality and eliminate avoidable waste to landfill. Customers were also asked how much they knew about the decarbonisation challenge. Finally, for "trusted to act for society", customers were asked what the most important information to know about Cadent was and how we can help the customer / Cadent conversation flow. We also asked about their awareness of Cadent.</p>	<p>2,605</p>	<p>2.0</p>
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<p>Business Options Testing</p>	<p>Aug-19</p>	<p>Domestic and business surveys, quantitative phase, Traverse</p>	<p>We commissioned Traverse to conduct a survey of more than 2000 domestic customers and more than 500 business customers to understand preferences between the different business options under consideration across 14 different service areas. The options presented combined service provisions e.g. educate 50,000 customers most at risk of CO poisoning and a monetary impact on the customer's annual bill. Across both the domestic and business surveys, the highest weighted average scores, supporting the options with the highest target delivery levels, were achieved in areas relating to safety and protection of vulnerable customers: responding to carbon monoxide incidents, repairing and replacing faulty appliances, helping vulnerable customers without gas and carbon monoxide safety.</p>	<p>Domestic and business customers were asked their preferred options (with varying degrees of target delivery levels / cost) for 14 commitments:</p> <ol style="list-style-type: none"> 1. Carbon Monoxide Safety 2. Responding to Carbon Monoxide incidents 3. Repairing and replacing faulty appliances 4. Helping vulnerable customers without gas 5. Helping all customers without gas 6. Getting customers back on gas 7. Carrying out safety checks 8. Minimising disruption from our works 9. Tackling Fuel Poverty 10. Awareness of Priority Services Register 11. Priority Services Register training 12. Becoming a Carbon neutral business 13. Communities not currently connected to gas 14. Keeping the energy flowing reliably and safely 	<p>2,547</p>	<p>3.0</p>
<p>Acceptability Testing</p>	<p>Oct-19</p>	<p>Carer's Trust</p>	<p>We sought email feedback from a number of stakeholders with an interest in the PSR and safeguarding to explore whether our plans in this area were appropriate. Issues covered included PSR awareness, staff training, partnerships and innovation. Overall, the feedback received was positive.</p>	<p>Via email, we asked whether they agreed with our priority for PSR awareness and which of the options would be most appropriate. We also asked whether they considered our approach to partnerships to be sensible. We explained our proposals for our Safeguarding Champions Network and asked if they thought it would make a difference. We also asked for views on whether only front-line staff should be trained in PSR needs. Finally, we asked whether innovation to safeguard is important, whether we should do more co-creation with partners and whether we should continue to work to lead the industry on extending innovation.</p>	<p>1</p>	<p>2.5</p>

Acceptability Testing	Oct-19	Phase 4 - Business interviews and surveys	We commissioned Traverse to test the acceptability and affordability of Cadent's proposed plan amongst business customers. This consisted of an on-line / face to face survey of 504 business customers and in-depth qualitative telephone interviews with 45 business customers. This showed that the plan had achieved high levels of acceptability and affordability from a business customer perspective.	Business customers were asked about the acceptability and affordability of Cadent's overall plan. If they said that the plan was unacceptable, they were asked to explain their response. If they said that it was neither acceptable nor unacceptable, they were asked what they would like to see in order to find it acceptable. Business customers were also asked to rate the acceptability of the outcome areas (environment, quality experience and resilience). Then, having learnt about the outcome areas, customers were asked as "informed customers" to rate the overall acceptability and affordability of the plan.	549	2.0
	Oct-19	Acceptability testing - final survey report on domestic customers,	We commissioned Traverse to test the acceptability and affordability of Cadent's proposed plan amongst domestic customers. This consisted of surveying 4,446 domestic customers through on-line and face to face methods. This showed that the plan had achieved high levels of acceptability and affordability amongst domestic customers, including those who are fuel poor.	Customers were asked about the acceptability and affordability of Cadent's overall plan. If they said that the plan was unacceptable, they were asked to explain their response. If they said that it was neither acceptable nor unacceptable, they were asked what they would like to see in order to find it acceptable. Customers were also asked to rate the acceptability of the outcome areas (environment, quality experience and resilience). Then, having learnt about the outcome areas, customers were asked as "informed customers" to rate the overall acceptability and affordability of the plan.	4,446	2.0
	Oct-19	Acceptability testing - focus groups with the general population	We commissioned Traverse to explore the acceptability of our plans and commitments in each of the three outcome areas (environment, quality experience and resilience) with 79 members of the public in regional focus groups. Participants were supportive of our plans for quality experience and resilience, but no consensus was reach on our environmental plans.	A group discussion was facilitated to discuss views on Cadent's plans in each of the three outcome areas and participants were also asked to complete a survey to rank levels of acceptability and affordability.	79	3.0

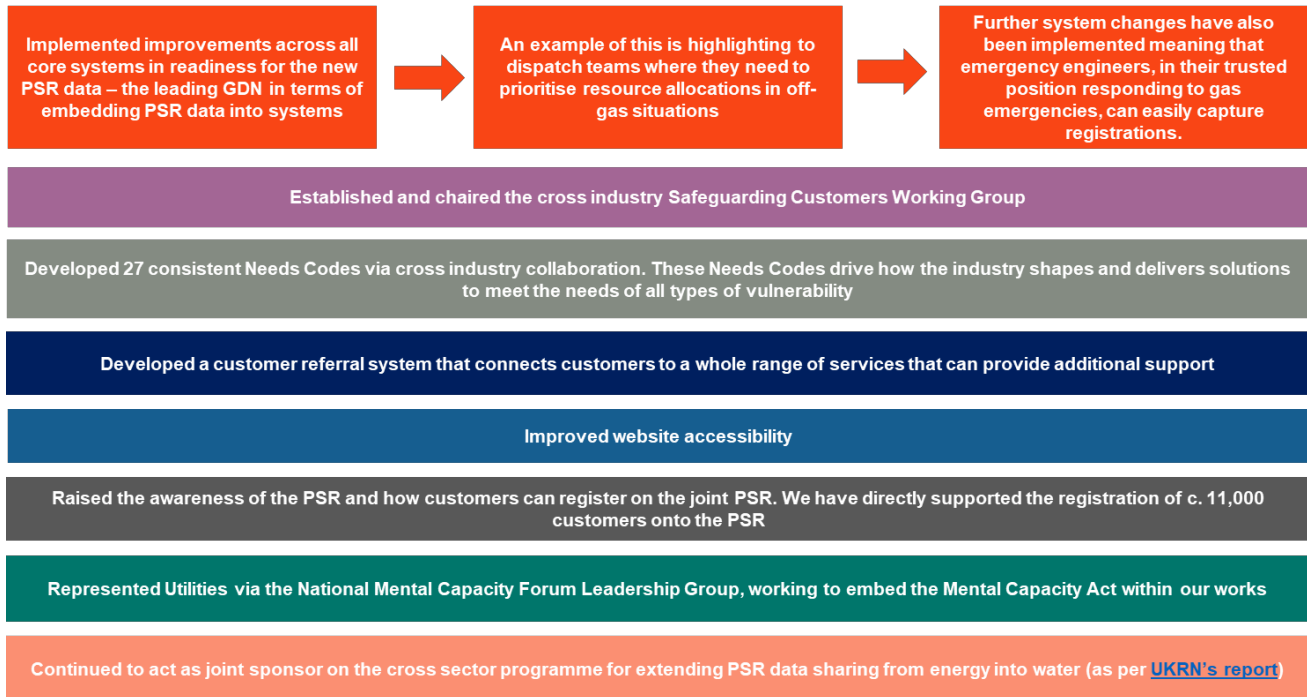
Acceptability Testing	Oct-19	Acceptability testing - customer forum	We commissioned Traverse to explore the acceptability of our plans and commitments in each of the three outcome areas (environment, quality experience and resilience) with 109 customers who had attended previous customer forums. Overall, participants found our plans to be both acceptable and affordable.	A group discussion was facilitated to discuss views on Cadent's plans in each of the three outcome areas and participants were also asked to complete a survey to rank levels of acceptability and affordability.	109	3.0
	Oct-19	Acceptability testing - focus groups with future customers	We commissioned Traverse to explore the acceptability of our plans and commitments in each of the three outcome areas (environment, quality experience and resilience) with 20 "future customers" (16-18 year olds) in 2 focus groups. Participants were supportive of our plans for the environment and resilience but questioned whether helping vulnerable customers was part our remit.	A group discussion was facilitated to discuss views on Cadent's plans in each of the three outcome areas and participants were also asked to complete a survey to rank levels of acceptability and affordability.	20	2.5
	Oct-19	Acceptability testing - interviews with CIVs	We commissioned Traverse to explore the acceptability of our plans and commitments in each of the three outcome areas (environment, quality experience and resilience) by interviewing 20 CIVs. Overall, our plans were supported, and all found the plans affordable.	Throughout the interviews the CIVs were explained the elements of the plan, asked to comment on whether they found each outcome acceptable, which particular elements were important to them, and whether they had any additional comments. They were also asked whether the new business plan was affordable.	20	3.0
	Oct-19	Acceptability testing - fuel poor focus groups	We commissioned Traverse to explore the acceptability of our plans and commitments in each of the three outcome areas (environment, quality experience and resilience) with 35 customers in fuel poverty in regional focus groups. Overall, participants were supportive of our plans in all three areas.	A group discussion was facilitated to discuss views on Cadent's plans in each of the three outcome areas and participants were also asked to complete a survey to rank levels of acceptability and affordability.	35	3.0

<p>Acceptability Testing</p>	<p>Oct-19</p>	<p>Verve business plan consultation</p>	<p>We commissioned Verve to gather views on our plans to reduce our carbon footprint from 25 customers. We did this through an online forum with customers and stakeholders to discuss the key components that we shared on our EAP. This included our intentions to support our employees to make a positive difference to tackling climate change.</p>	<p>Participants were asked about their awareness of Cadent, discussed the three outcome areas (environment, quality experience and resilience), discussed the bill impact breakdown (both at present and as a result of the plan), risks and uncertainties and innovation funding.</p>	<p>25</p>	<p>2.0</p>
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1.4. Learning from RIIO-1

Throughout RIIO-1, Cadent has driven industry-wide improvements to the PSR and have been the 'go-to' utility company for best practice in serving CIVS.

During RIIO-1 we have:



In RIIO-1 we have seen the benefits of industry collaboration and sharing of best practice. Some examples of where we have led the industry to collectively work together and enable the delivery of positive outcomes for CIVS to include the following:

- Through the Safeguarding Customer Working Group, all energy companies were brought together to agree on a consistent set of 'Needs Codes' which made a single PSR registration possible. If one company signs up a customer to the PSR, their details are safely stored and shared by all energy companies, with customer consent. This helps provide companies with information to tailor services better so that they receive consistent and appropriate levels of support from energy companies in times of need.
- The National Mental Capacity Forum (NMCF) Utilities Working Group brings together companies from across essential services of Energy, Water and Communications to create good practice guidance for all utility companies to use – focusing on key priorities (i.e. Utilities Against Scams and Money and Mental Health) and the continual development of guidance already published.
- Cadent has been pivotal in gaining commitment from the water industry to join the energy industry's approach to sharing PSR data by 2020. The ambition is for the energy and water industries to have shared PSR data so that customers can easily register and access safeguarding services across both essential services.

The development of the 27 Needs Codes has allowed us to understand the needs of our customers and to tailor our services and deliver initiatives that support customers with specific needs. Examples of this include:

- PSR Language Line in North London - North London is a densely populated area with diverse communities. Across our London Network, over 54% of the population English is not the first language, which is 2.5 times the national average¹ Emergency First Call Operatives (FCO's) making use of Language Line, an 'over the phone' translation service, on the doorstep helps not only to allow the FCO to gain access to properties but also supports the customer in feeling less anxious because they understand what is going on and why. Feedback from FCOs is that this makes the job a lot easier and means that they can provide a service rather than it feeling like an intrusion.

¹ Department of education

- Easy-assist ECV - There are currently 500,000 people registered on the PSR with restricted hand movement. We have innovated to develop the Easy-assist ECV which helps customers to stay safe and independent in their homes with a 'push button' ECV rather than a handle.
- Safeguarding decision-making tool – We are in the early stages of developing a decision-making tool which connects data in our core systems with details specific to the job such as the time likely to be off gas, the time of year and the weather forecast to allow our field force, who work with CIVS on a daily basis, to identify the relevant and available services to support the specific needs of our customers. This provides a standardised way to support colleagues to offer the right services but link that with the delivery mechanism too.

1.5. Engagement feedback

Responses from our engagement on identifying customer needs showed that there is no one-size-fits-all approach. While many CIVS may share common needs, there were many points that are specific to the individual needs and preferences of people within each needs code.

Providing for specific customer needs is broadly supported by our customers and employees. This is evident in UKERC's research, which suggested that customers are, on average, willing to accept a 9.6% increase in their energy bill supporting the goal of 'helping vulnerable and disadvantaged groups.' At our customer forum on interruptions and reinstatement, with 104 attendees, most customers agreed that CIVS, including dependent children and those on the PSR, should first and foremost have access to provisions during planned interruptions. In addition, our internal survey of 783 employees, indicated that they highly value meeting the individual expectations of our customers, especially vulnerable customers (scoring 4 out of 5).

Safeguarding as a whole was also discussed in-depth during stakeholder interviews in August 2019. All stakeholders agreed that innovation and new technology should be encouraged. Rural England noted that this could minimise risk for vulnerable people, especially the elderly and those with disabilities. Disabled Living agreed that, as a community we all need to be able to think creatively and support everyone to stay safe in the home they deserve, and that creative thinking will ensure Cadent stays ahead of the game with customer service and trust will grow if people feel safe at home.

Awareness of the PSR and its services

Our engagement showed that there is a low awareness of the PSR and its services, with evidence from a total of 307 stakeholders: our interviews with 13 CIVS, London Collaboration Forums with SGN and 48 attendees, deliberative workshops with 206 customers, and the CIVS study with 40 participants.

From our interviews with CIVS, we learned that none of them had heard of Cadent and were thus unaware of the services offered. This feedback was supported during our London Collaboration Forums with SGN, and deliberative workshops with customers who told us that they were unaware of the safeguarding services offered by Cadent and the PSR. This varied significantly across regions from 44% to 92% being unaware, with a particular need for more awareness in North West and East Anglia.

These results hold even for the seven professionals and carers working directly with CIVS. Our CIVS study showed that only five professionals out of nineteen, and only five out of nineteen CIVS and carers, had heard of the PSR.

This feedback was further supported by the results of the survey of 75 individuals in Coventry, where individuals suggested that we improve the communication around the services we offer.

Across engagement activities, respondents provided us with examples of how we could increase awareness, including advertising (both general and targeted), providing training for staff and partnering with other organisations (e.g. other utilities, emergency services and doctors).

Liaising with third parties was frequently mentioned, and we were advised that we should partner with the wider support network of people in vulnerable situations, such as charities, social or health carers and family. This idea was strongly prioritised by stakeholders in North London, as well as participants in our CIVS study, the Accent workshop with 37 attendees, the forum on safeguarding with 96 participants, and interviews with 18 of our business customers. Participants in our CIVS study also mentioned that engineers could be given easy access to a central hub of relevant local partner organisations that they could easily refer to.

In terms of which services were considered important, all 31 participants at the ESL and non-English speakers workshops felt that locking cooker valves was a good idea, especially for those with dementia, learning difficulties

or mental health problems, and families with children. Some thought that all households should have this, whereas some believed only CIVS should be provided with one. Many believed Cadent should work with other GDNs to roll out initiatives like this. Others mentioned working with social services and mental health service providers to identify customers who would benefit from a locking cooker valve.

Participants at our acceptability testing workshops with CIVs agreed that the Priority Service Register needs to be more widely advertised and customers support Cadent's plans to adopt several methods to achieve this, including working with local charities and partnerships. Largely, customers agreed that Cadent should prioritise raising awareness of all its initiatives (including PSR and CO) but some also suggested that there should be more accessible information about who Cadent are in general and how to call them in an emergency.

Improving PSR sign-ups and reaching the right customers

During our deliberative customer workshops, we learned from the 206 attendees that registering for the PSR could be made easier, for example through an online application or prompts for suppliers when they take on a new customer. Similar to raising awareness, working together with vulnerable customers' support networks was also seen as critical for getting vulnerable customers onto the PSR.

Some of the 127 stakeholders at our regional workshops and in our CIVS study informed us that the internet was not a reliable way to reach everyone and potentially eligible customers should be reached through a variety of channels. These stakeholders identified additional obstacles to getting people on the PSR, such as:

- Lack of visibility on who they might be.
- Suitability of eligibility criteria.
- Language barriers.
- Confusion over who is responsible for referrals.
- The stigma associated with being 'vulnerable'.

Feedback from the deliberative workshops confirmed these obstacles and stressed the importance of identifying vulnerability and various approaches to meet different sets of circumstances. The focus should be on providing tailored services and ensuring that CIVS receive the right level of support. Respondents to the survey of individuals in Coventry suggested tailored services and support, such as language interpreters for customers with English as their second language, and provision of cheaper fixed tariffs for those in vulnerable situations.

Feedback from the CIVS study and our safeguarding forum also revealed ways we could be innovative in signing up customers in need, rather than relying on self-identification. This included using data, such as energy usage patterns or Warm Home Discounts, partnering with relevant third parties, and ensuring that engineers are trained to recognise signs of neglect, agitations, abuse, lack of hygiene or safety, or hoarding.

At CIVS workshops, participants stated that TV was likely to be more effective and inclusive than social media campaigns for promoting the PSR and protecting and supporting vulnerable customers. They also stated that they receive much of their important information from charities and support organisations. Partnerships were seen as positive, though there were questions on 'the right ones', the suggestion of working with suppliers to promote PSR on gas bills came up consistently.

Individual compounding factors

It is important that, even with the representative customer research that we have carried out across our networks, we continue to consider additional compounding factors that impact vulnerability. For example, we must consider how we identify cultural differences or geographic restrictions, how this will change our response, and/or how we reach these customers.

Cadent has been working with London Sustainability Exchange (LSX) to look at the first of these compounding factors, working with cultural groups across our network to understand how we might need to adapt or consider our actions to have the best positive impact. The idea is to ensure that we take the initial customer forum research and look to consider the 'so what' in the case of different gender and age across cultures. For example, how would our response differ because we are engaging with a young female or an elder. How can we work with cultural

groups across our networks to raise awareness in an appropriate and relevant way? What are the additional considerations to ensure we can provide equal access? What opportunities are there for intergenerational differences?

Joint GDN research into how well the needs of CIVS are met by GDNs

During phase 1 of joint GDN research into how well the needs of CIVS are met by GDNs, research agency Accent conducted 16 telephone interviews with stakeholders working with, or in the interests of, consumers in vulnerable circumstances (representatives of Gas Network partner agencies, consumer bodies, charities and other relevant organisations).

The findings reveal that:

- The Gas Networks generally service customers with vulnerabilities well and GDNs understanding of customer needs is improving.
- The Gas Networks have a similar understanding of the needs of customers experiencing vulnerability but there should be greater consistency between networks in the way in which vulnerability is described.
- The most significant gap in customer awareness is of the PSR, which needs to be increased, along with awareness and promotion of the GSOPs – both among end customers and the groups working to support them.
- The GSOPs are, broadly, fit for purpose and do not require wholesale change. However, a number could be improved and there is stakeholder support for enhancements.

Overall, in light of the findings for phase 1, the networks were happy with the evidence in place and did not believe further collective work was needed to support RIIO-2 business planning. At Cadent, we have further developed our proposals for service offerings above and beyond GSOP minimum standard levels based on our customer and stakeholder feedback. We have understood and acted appropriately within this commitment together with our other commitments found in the Appendices '07.03.06 Getting our customers back on gas', '07.03.12 Going beyond to never leave a customer vulnerable without gas' and '07.03.08 Minimising disruption from our works'.

Stakeholder views on Ofgem’s RIIO-2 methodology

In December 2018, Citizens Advice published a series of essays² to illustrate and share ideas on how the RIIO-2 price control could better support consumers in vulnerable situations. A roundtable was subsequently convened in February 2019 to discuss and develop these ideas further, and thereby assist Ofgem in improving its approach to vulnerability under RIIO.

Key commentary from Citizen’s Advice on which areas are of immediate importance for Ofgem include:

<p>“Support available to people should not depend on where they live or who their network provider is”</p>	<p>“Sharing of ideas & best practice between companies is crucial if the networks are to learn from each other”</p>
<p>“It is also important to ensure that consumers receive the same level & quality of support, regardless of where they live & who their energy network is”</p>	<p>“Networks need to actively form part of the consumer journey for a person in a vulnerable situation – proactively linking up with other industry or government schemes”</p>
<p>“The networks have done some good work to date & should be encouraged to develop further partnerships that can positively improve the experience of CIVS”</p>	<p>“Networks already have some partnerships in place, but need to be pushed to continue to improve on that & get more integrated in other areas to deliver benefits”</p>
<p>“Where there is a cost behind forming additional partnerships, this could potentially be funded by the ‘use-it-or-lose-it RIIO-2 allowance”</p>	

² [https://www.citizensadvice.org.uk/Global/CitizensAdvice/Energy/RIIO-2%20Vulnerability%20Essays_FINAL%20\(1\).pdf](https://www.citizensadvice.org.uk/Global/CitizensAdvice/Energy/RIIO-2%20Vulnerability%20Essays_FINAL%20(1).pdf)

Table 4 Summary of insights

Feedback/insight	How we have addressed this
Customers and stakeholders highlighted that there should be no one-size-fits-all approach. CIVS have bespoke individual needs and our services should reflect these.	We strongly agree with this insight and in RIIO-1 we led the development of 27 consistent needs codes across the industry. We will continue to evolve these and ensure our services correspond to individual needs. One example of this is our commitment to offer a choice of welfare provisions and services beyond the minimum requirement to CIVS during an interruption to their gas supply. See Appendix '07.03.12 Going beyond to never leave a customer vulnerable without gas' for more information on this.
Our engagement shows that there is a low awareness of the PSR and its services.	Raising awareness of the PSR and what it means to be registered has been one of our priorities in RIIO-1 and will continue to be a priority in RIIO-2, where we will enhance our reach and partnership working to spread a significantly greater level of awareness.
Customers and stakeholders encouraged us to be innovative and creative in our thinking to ensure we stay ahead of the game with services to support CIVS.	In our proposals we explore our level of innovation in services related to vulnerability. We will continually seek to innovate and roll out proven and effective innovations in the vulnerability space including bespoke products or services catering to specific needs.
Customers and stakeholders highlighted that we could utilise various approaches to raise awareness of the PSR including advertising and media campaigns.	We want to ensure all our services are accessible and inclusive to all including those related to the PSR. Therefore, we are committing to utilise various online and offline methods to increase the awareness of the PSR and the services customers registering on the PSR are entitled to receive. See Appendix '07.03.05 Measuring and enhancing accessibility and inclusivity' for more information.
Customers and stakeholders across various forums and interviews encouraged us to partner with the wider support network of people in vulnerable situations, such as charities and expert partners.	Partnership working already forms the foundations for our work to support CIVS in RIIO-1. For RIIO-2, we are looking to further enhance our partnership working, building on partnerships already made and forming new partnerships to reach customers that we wouldn't normally reach as part of our day-to-day operations. We are committing to forming over 80 partnerships with various organisations over RIIO-2.
Some customers explained that registering for the PSR could be made easier, for example through an online application or prompts for suppliers when they take on a new customer.	As part of proposals to provide accessible and inclusive communications and services, we will develop our communication channels including our website to ensure it is easy for customers to register on the PSR. See Appendix '07.03.05 Measuring and enhancing accessibility and inclusivity' for more information.
Individuals in Coventry University suggested providing language interpreters and translation services for customers with English as their second language.	Our proposals for accessible and inclusive communication includes providing information to ESL and non-English speaking customers translation and interpretation services e.g. Language line. See Appendix '07.03.05 Measuring and enhancing accessibility and inclusivity' for more information.
Customers and employees highlighted the importance of engineers being trained to recognise signs of vulnerability including neglect, agitations, abuse, lack of hygiene or safety, or hoarding.	Our employees are key to identifying needs and delivering bespoke services for CIVS, especially those who interact with our customers on a day to day basis. Therefore, we commit to providing annual vulnerability training to all our front line staff over RIIO-2.
As part of our ambitions to raise awareness of the PSR customers and stakeholders encouraged us to raise awareness of the GSOPs.	Guaranteed standards are important and encourage networks to stay above the minimum requirements and compensate when they fail. Although our proposals aim

	to go beyond these levels we will ensure any failure leads to automatic payment without customers having to claim and we will communicate and raise awareness of what they standards are through various channels.
Customers said that networks should continue to make improvements and ensure all customers receive the same level and quality of support regardless of where they live or who their energy network is, moving away from any potential stigma of vulnerability.	Embedded within our commitments for RIIO-2 will be to ensure that the level and quality of service we deliver is consistent to all customers, no matter their situation. The existing RIIO-1 licence condition (D13) that protects CIVS is due to be updated by Ofgem for RIIO-2 and will become more principles based. This will help to ensure that CIVS across networks receive more consistent levels of service.

2. Assessing the measurement options



2.1. How is it currently measured?

In RIIO-1, there are no specific regulatory output measures related to improving awareness of services related to vulnerability or PSR registrations. However, we do have licence obligations and minimum standards to protect domestic customers specifically those registered upon the PSR.

Standard Special Condition D13 requires us to provide services for specific domestic customer groups including agreeing on a password for easy identification during works, providing facilities which enables any domestic customer who has additional communication needs to ask or complain about any service, and sharing relevant information with suppliers. In addition, initiatives related to vulnerability are incentivised through the Stakeholder Engagement Incentive Submission (SEIS) and the Discretionary Reward Scheme (DRS). In Section 3, 'assessing performance levels', we explain our current and historic performance in the area of vulnerability.

How do current measures deliver against customer outcome/priority?

The current measures in RIIO-1 largely focus on providing minimum standards to CIVS. Customers have highlighted the importance of raising awareness of the services available and prioritising CIVS as our works will have the greatest impact on them.

Strengths – The setting of minimum standards has ensured the most vulnerable are protected and prioritised. The stakeholder engagement incentive has also encouraged greater engagement and knowledge sharing with charities and organisations who have experience and expertise in supporting vulnerable groups.

Weaknesses - Although the current measures have set a strong foundation to support and prioritise the most vulnerable, they encourage a reactive approach as opposed to longer-term outcomes delivered proactively. There are no measurable outputs related to increasing the awareness of the PSR, number of partnerships, or staff training.

2.2. Good practice

There is a lot of good practice taking place across the utility industry and the wider service sector to support CIVS. The main areas of good practice, include:

- **Tailored services** - Developing awareness of vulnerability needs codes and showing a maturity in thinking how to tailor services to meet individual needs. It is as important to realise when a safeguarding service or product should not be offered as much as which service or product is best suited to the overall situation.
- **Partnerships** – Work closely with industry experts and charities to consistently deliver positive customer outcomes with a drive to improve and continually raise the bar and be flexible to changing needs.
- **Measurement and reporting** – Measuring the services which improve the lives of customers living in vulnerable situations is not always tangible, but in recent years regulators and organisations have adopted many different approaches to measure, track and improve performance related to vulnerability.

Tailored services

Water companies included a range of commitments in their PR19 business plans relating to tailored services for CIVS. These include:

- Dee Valley Water and Severn Trent Water have a 'help to fix' scheme where, if a person in vulnerable circumstances' health is at risk as a result of a private issue, they will fix it or support them to find a contractor who can fix it for them. For customers with mental or emotional vulnerabilities, they will support them through the process of getting a private issue resolved and, where required, fix it for them.
- South West Water will provide freephone numbers to all customers on the PSR and customers who require support to pay so they do not cause them an extra financial burden if they need to talk to their water supplier. It is also going to double the size of its Customer Care Team as a reflection of the social services provided, such as extra home visits, outbound calling and assigning vulnerable customers a dedicated contact. Its new Vulnerability Strategy Team will build a trusted partner network of agencies, organisations and other utilities to share data and cross-promote services.
- South Staffordshire Water has set up a Community Hub staffed by its people. This venture enables it to engage directly with customers who may be categorised as vulnerable or who express a desire to engage with them face to face. By the end of June this year, nearly 1,000 customers had visited the community hub, receiving advice and information on things like water meters, social tariffs and debt management.

A Financial Conduct Authority (FCA) report on vulnerability also provided some examples from the financial sector of the way companies support customers with specific needs and embed this in their incentives and performance management for staff (the firms were anonymous):

- A relatively new bank told the FCA that it was able to establish a debt management programme that built-in the need to treat customers fairly from the outset. It believes a flexible approach is supported at board level and relevant managers feel they have the autonomy to implement this in practice. The approach is embedded throughout all aspects of the organisation 'like a stick of rock'. It reports that it educates staff to see customers as people rather than statistics. Staff are encouraged to understand the reasons behind debt and take on board the longer-term implications of not resolving the situation for the customer (such as an impaired credit record). Staff are trained to look out for tell-tale signs of stress, including late payments, changes to dates of payments and manual payments, as well as what customers say in phone calls. It identifies a consistency of approach across all customer-facing teams; staff training; a specialist support team, and a Vulnerable Customer Committee that assesses individual cases, as part of the keys to success. Another key point is an incentive scheme that was radically altered to reflect quality in managing vulnerable customers and finding successful solutions.
- A firm in the credit sector informed the FCA that its approach to vulnerability includes extensive training, a specialist customer support team, and signposting to support agencies at every opportunity. Incentives for staff to identify and deal effectively with vulnerable customers by building this into their performance assessment is also essential. Performance assessment includes managers listening to a sample of calls and assessing how potentially vulnerable people are handled. According to the firm, if these customers are not passed onto the customer support team appropriately, and if calls are not dealt with in a friendly, empathetic manner, this will impact on staff rewards. The firm uses speech analytics software to help with auditing staff performance. This analyses all calls and picks up on specific key words, which may be triggers or clues to vulnerability, such as the mention of illness, treatment, diagnosis or depression. Managers can then assess how these calls have been handled, and give feedback where improvements are needed.

Partnerships

Many organisations work with partners and industry experts to deliver the most effective outcomes for CIVS. These partners have a greater level of experience in delivering services to specific groups and have developed a level of trust and reliability with customers and communities.

These organisations often publish a range of advice and studies covering the topic of vulnerability. Their summaries of good practice include the following:

- Reports by Citizens Advice encourage service providers to promote energy efficiency, enhancing staff training, data sharing and recording and customer segmentation while providing greater access for the vulnerable and tailoring marketing and communications so that they are clear and easy to understand.
- Age UK requests that the aged receive special attention and make suggestions such as the provision of paper-based information that can be pinned to a board and inform customers about the PSR.
- Britain Thinks said that service providers need an improved understanding of the mentally ill and should partner with charitable organisations and support CIVS once identified (through calls, home visits, letters). They suggest that companies should work sensitively with consumers and work in partnership with advice organisations, such as Job Centres and Housing Associations.

Measurement and reporting

Regulators outside the energy sector have adopted different approaches to vulnerability:

- Ofcom introduced a new General Condition (the rules all companies must follow) in October 2018, which means that firms will be required to publish their policy on treating all CIVS fairly and offering them additional help if necessary. Ofcom is monitoring the impact of the General Condition on vulnerability (GC C5) and will identify examples of best practice which will be shared with us through industry events and a guide.
- Following PR19 business plan submissions, Ofwat required that all companies adopt a performance commitment based on the following specifications:
 - Companies should register a minimum of 7% of households on the PSR by 2024-25. Companies may choose to set a level that is higher than this minimum level.
 - When setting the new target, companies should consider the needs of customers in vulnerable circumstances in their region by consulting available data and engaging with relevant third parties.
 - Companies should contact a minimum of 90% of registered customers every two years to make sure they are still getting the right support.
 - If a company has already proposed a performance commitment to increase the coverage of their register, they must adapt their commitment to meet the specifications above.

2.3. What options have we considered?

Defining objectives

Reflecting on the insights we have received from our customers and stakeholders and best practice across the industry, we have defined the objectives the outputs on vulnerability should deliver in RIIO-2.

Table 5 Defining the objectives

Objective	Business insights	Customer and stakeholder insight/feedback	Best practice	Strategy/policy
Evolve the service we provide to meet the needs of CIVS	Our people take pride in supporting and helping customers they find in vulnerable situations and want us to do more.	Customers and stakeholders are encouraging us to continually improve our services for CIVS.	Organisations within the energy sector and beyond are evolving their services to consider the needs of all customers.	Ofgem has indicated that vulnerability has a greater role in RIIO-2 than ever before.
Use data to support and inform our interactions with customers and/or develop partnerships	Joining our data with publicly available data has allowed us to be better informed and make better decisions.		Data and technology are being used across the industry to identify vulnerability with accuracy and at scale.	
Partner with industry experts and charities to	Partnerships formed in RIIO-1	Stakeholders have advised us to form	Many organisations across the industry	

deliver the best outcome for customers	have helped us join CIVS with the services they need.	effective partnerships to co-create and deliver better services.	use partnerships to deliver enhanced services.	
Increase the visibility and accessibility of our safeguarding services for our customers	As a relatively new company, we want to ensure we are known to all and our services are accessible to all.	Customers and stakeholders call for us to ensure all our services are accessible to all.		
Innovate to deliver solutions that best meet the needs of both current and future customers	Innovation targeted at specific customer needs has delivered great benefits and should be continued.	Customers want us to continue to innovate and use the latest technologies to support CIVS.	Innovations across the industry that support CIVS can be adopted and/or developed.	

Table 6 Options we considered

Option 1: Continue with existing safeguarding services	
<ul style="list-style-type: none"> • Minimum standards - Compliance with minimum standards (D13 licence condition and GSOP3). • Influencing industry - Driving the industry to drive good practice in offering services to safeguard CIVS • PSR - Continuing to embed PSR data into our core systems. • Referrals system – working with existing partnerships to support customers and connect them to the services they need. 	
Assessing the merits and drawbacks	
Pros	Cons
<ul style="list-style-type: none"> • Reaching out to a wide range of customers using PSR data. • PSR data embedded within our systems to inform our thinking. 	<ul style="list-style-type: none"> • No real step-change in performance for customers who need it most. • No specific innovation funding or criteria for supporting CIVS. • Limited industry collaboration to deliver services for all.
Potential unintended consequences	
<ul style="list-style-type: none"> • Damage to Cadent brand and reputation – We have been leaders in the industry for driving changes in safeguarding and supporting CIVS. If we do not continue to make improvements, we will fall behind the wider industry, damaging our brand and reputation. • Making the most of our interactions – In many instances as a GDN going into people's homes, we are the only company or contact that an individual living alone might have. To provide a minimum standard in services and not to invest in partnership to support what we might find is potentially a missed opportunity for societal purposes and the welfare of our colleagues. 	

Option 2: Enhancing our use of data to further address all the Needs Codes, deliver innovative solutions and create new partnerships	
<ul style="list-style-type: none"> • All elements of Option 1 • Greater use of data layering - Using multiple data sets about vulnerability (in our systems and public data) to build a richer picture and inform decision making and identifying solutions for all vulnerability Needs Codes. • Enhanced partnerships - Developing new partnerships at the appropriate level with charities and expert organisations to broaden our reach. • Developing our people - Further developing internal behavioural and cultural change and ensuring that there are support processes in place for colleagues who may find themselves in a personal vulnerable situation. • Innovation - Building on existing innovations together with investment in new options to access harder to reach audiences. 	
Assessing the merits and drawbacks	
Pros	Cons

<ul style="list-style-type: none"> • All the benefits of Option 1. • Delivers a greater breadth of options or solutions for the Needs Codes, informed by multiple layers of data. • Accelerates innovation solutions including the wide-scale implementation of proven innovations, and the development of new innovations. • Goes further to support CIVS through increased and enhanced partnerships with charities and expert organisations. • Provides our people with the right skills and tools to support all customers they face or speak to. 	<ul style="list-style-type: none"> • Risk that new partnerships do not deliver the required outcomes due to a lack of maturity, capacity and funding. • An enhanced approach would most likely add cost to the customer bill.
<p>Potential unintended consequences</p> <ul style="list-style-type: none"> • Regulated funds used for forming partnerships with experts carries the risk of impacting the competitive market. There need to be clear guidelines associated with these services to ensure they do not drive the wrong behaviour from companies and consumers. 	

Option 3: Transformational approach to how we serve CIVS	
<ul style="list-style-type: none"> • All elements of Options 1 and 2. • Fully interfaced IT systems and applications to support vulnerability – Industry-leading systems with the latest technology to best serve CIVS (e.g. a decision-support tool which triangulates customer information and job data to inform colleagues on what services are available and should be provided in all situations). • A multi-layered approach to partnership – Formation of partnerships at different levels and lengths to reach more customers and communities. This could be a mix of strategic long-term partnerships allowing co-creation and co-sponsorship of a broad range of joint opportunities, programme partnerships for the development and delivery of specific services, and one-off project partnerships with charities and regional authorities to raise awareness of services. • A holistic approach to vulnerability - Delivering a holistic solution when we identify vulnerability by assessing the whole house situation and providing solutions from across our safeguarding offerings (including CO and Fuel Poverty) to keep people safe, warm and independent in their homes. • One PSR – Working with the wider utilities sector to develop one PSR across the energy and water industry so that customers are able to easily register and access safeguarding services across both essential services. • Transformational innovation – Step-change investment in innovation to deliver unique, long term solutions for CIVS, targeting specific and bespoke needs for all Needs Codes. 	
<p>Assessing the merits and drawbacks</p>	
Pros	Cons
<ul style="list-style-type: none"> • All of the benefits of Options 1 and 2. • Step-change increase in the level of service we provide to CIVS. • Strength and reach of multi-layered partnerships will allow us to reach many more customers to raise awareness of services and provide the required support when our activities affect them. • Allows us to more quickly implement new ideas and best practice from other industries and companies. • One PSR makes it easier for customers to access support from multiple companies and would create the environment for all customers to benefit from the delivery of transformational change. • Creates the right environment for our engineers to do what is right for the customer in every situation, thereby increasing employee morale and satisfaction. 	<ul style="list-style-type: none"> • Would require significant investment in resource and systems to deliver transformational change and therefore considerable cost added to the customer bill. • Complex system interactions would need to be reflected in activities related to Business Continuity Management. • A greater risk is associated with non-delivery of benefits associated with increased investment in transformational innovation.

<ul style="list-style-type: none"> • Will automatically be captured in systems where 'action' and welfare products have been provided allowing us to keep track of the customer relationship. • Creates a simple way to introduce new innovations, services and products to the front line in a consistent way. 	
Potential unintended consequences	
<ul style="list-style-type: none"> • Regulated funds used for forming partnerships with experts carries the risk of impacting the competitive market. There need to be clear guidelines associated with these services to ensure they do not drive the wrong behaviour from companies and consumers. 	

2.4. Why are these the options

Our options range from what we do today to delivering transformational changes based on what customers and stakeholders have informed us and what we are able to deliver. We do not believe there is an option to do less than what we do today as we have made some encouraging progress in going beyond what customers expect as a minimum and influencing the industry to do more to address vulnerability. Option 2 goes beyond what we do today based on key insights we have obtained from our experience in RIIO-1, feedback and engagement with customers and stakeholders, and analysis on best practice across the industry. Option 3 builds further on this by proposing a step-change in how we address vulnerability, making the most of data, technology and innovation. This option stretches us to become leaders in the industry while ensuring it is within our capability to deliver at an efficient cost to customers.

It is important to note that, of course, there are other potential options that we have considered and discounted. For example, we considered setting up our own PSR. However, the costs were significantly prohibitory and we do not believe that this provides the best options for customers. Whilst it would provide more specific and timely information to us, it would require customers to register their vulnerability with several organisations. We believe that in setting up our own PSR we would be responding to a symptom of weakness in the current approach (mainly the timeliness of data flows to be updated) as opposed to the main challenge, which is to provide an easy to use platform that people understand and are aware of to register specific requirements that utility companies such as Cadent can use and respond to.

We have mapped these options against the objectives we defined above:

Table 7 Options appraisal against objectives

	Option 1: Continue with existing safeguarding services	Option 2: Enhancing our use of data to further address all the Needs Codes, deliver innovative solutions and create new partnerships	Option 3: Transformational approach to how we serve CIVS
Evolve the service we provide to meet the needs of CIVS			
Use data to support and inform our interactions with customers and/or develop partnerships			
Partner with industry experts and charities to deliver the best outcome for customers			
Increase the visibility and accessibility of our safeguarding services for our customers			

Innovate to deliver solutions that best meet the needs of both current and future customers			
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No delivery	Weak delivery	Some delivery	Delivery	Strong delivery
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2.5. Customer and stakeholder preference

Ahead of customer testing and acceptability, the preference was a hybrid of Options 2 and 3 as this best aligns with insights from our historical experience and early engagement with our customers and stakeholders. This option allows us to deliver a step-change in performance for customers in RIIO-2 and also ensure that we extend and tailor our services to meet the needs of the changing nature of vulnerability. Section 3 shows how we developed proposed performance levels and associated costs which we went on to test with our customers during our business options testing. The outcome of this is described in Section 4.

In summary, our key areas of focus are:

- Raising awareness of the PSR and making it more accessible to register.
- Using partnerships to reach specific CIVS, allowing us to access wider audiences through trusted relationships that are already in place.
- Providing the skills and knowledge to our people to ensure they are best prepared to identify vulnerability and provide the right services.
- Providing tools to aid colleagues to act upon vulnerable situations that they come across daily.
- Continuing to innovate in order to develop new tools, techniques and processes to better serve CIVS.

3. Assessing performance levels



3.1. How we performed in RIIO-1

In RIIO-1 to date, we have complied with licence condition D13 to provide specific services for vulnerable customers.

Stakeholder Engagement Incentive

In July 2019, we were awarded a score of 6.33/10 by the Stakeholder Engagement panel for our 2018/19 submission. Although we have received higher scores in previous years, the expectations get higher every year as companies are expected to embed previous improvements into business as usual activities and continually improve.

Table 8 RIIO-1 Stakeholder engagement incentive performance

	13/14	14/15	15/16	16/17	17/18	18/19
SEIS score	7.1	5.9	6.9	6.9	6.0	6.33

The SEIS panel noted a significant improvement in our stakeholder engagement approach and delivery in 2018/19 from previous years, in particular, a step-change underpinned by increased investment, leading to far greater scale of engagement. Last year marked the start of our business transformation programme, which is creating a far more regionally aligned operating model. This has allowed us to engage with customers and stakeholders from a regional focal point, creating much clearer and more focused plans and outcomes. Our transformation will continue through 2019/20 as organisational structures are fully populated and good practice identified in a series of pilots across the country which will be scaled up. Our engagement plans for 2019/20 are even more ambitious than in 2018/19, with greater scale still, but more focus on measuring the benefits of engagement through the continued application of our social return on investment tool. Although our stakeholder engagement is wide and applicable to several areas, vulnerability is one of the most important elements for us. In Section 1, we highlighted some of the activities and initiatives related to vulnerability we undertook in RIIO-1.

3.2. What performance levels have we considered for RIIO-2

Based on our engagement, insights, and historic performance, we explored three potential output areas to enable us to identify customer needs and join up the relevant support services. In addition, we considered the level of innovation in this area. We have identified three delivery levels based on historic performance and initial customer feedback that we tested with our customers and stakeholders, showing the cost of each option and how it will affect bills.

Conversations to raise awareness of the PSR

It is vital that we use our existing interactions and relationships with partners to directly communicate with our customers to raise awareness of the PSR, whether it be for themselves to register or someone they know.

Table 9 PSR conversations target range and cost to achieve

	Low	Medium	High
Target	Have direct conversations with 500,000 customers to raise the awareness of the PSR, and we will register all customers who wish to be added following explicit consent (using the principles of verbal communication).	Have direct conversations with a million customers to raise the awareness of the PSR and we will register all customers who wish to be added following explicit consent (using the principles of verbal communication).	Have direct conversations with two million customers to raise the awareness of the PSR and we will register all customers who wish to be added following explicit consent (using the principles of verbal communication).
Cost to achieve (RIIO2 period)	0	£1,500,000	£2,000,000
Cost assumptions/calculation	No additional cost for conversations as they occur during normal day to day interactions.	<ul style="list-style-type: none"> • First 500k conversations delivered at no incremental cost. • Additional 300k conversations delivered by Cadent staff @ £4.67 per conversation (resource and material cost). • Additional 200k conversations delivered by partners @ £0.50 per conversation (partnership set up cost captured under partnership costs below). 	<ul style="list-style-type: none"> • First 500k conversations delivered at no incremental cost. • Additional 300k conversations delivered by Cadent staff @ £4.67 per conversation (resource and material cost). • Additional 1.2m conversations delivered by partners @ £0.50 per conversation (partnership set up cost captured under partnership costs below).

Partnerships

Through partnerships we are able to access a greater number of our customers and deliver increased awareness of our services, co-create future services and develop expert training for our colleagues.

This could be a mix of strategic partnerships which achieve broad outcomes, allowing multiple long-term options for co-creation and co-sponsorship of joint opportunities to raise awareness of services for all. Greater numbers of programmed partnerships could be made with organisations that are not set-up to support in as much breadth across co-creation as others are, although they may still be operating at the national level. One-off project partnerships could achieve specific short-term objectives (e.g. with a regional charity or a Local authority that can support awareness at an annual event or through a publication).

Table 10 Partnerships target range and cost to achieve

	Low	Medium	High
Target	<ul style="list-style-type: none"> • Form 2 strategic partnerships a year. • Form 3 programme or long-term but 	<ul style="list-style-type: none"> • Form 3 strategic partnerships a year. • Form 5 programme or long-term but 	<ul style="list-style-type: none"> • Form 6 strategic partnerships a year. • Form 8 programme or long-term but

	<p>singularly focussed partnerships per year.</p> <ul style="list-style-type: none"> Form 2 Project partnerships. 	<p>singularly focussed partnerships per year.</p> <ul style="list-style-type: none"> Form 6 Project Partnerships. 	<p>singularly focussed partnerships per year.</p> <ul style="list-style-type: none"> Form 12 Project partnerships.
Cost to achieve (RIIO2 period)	£450,000	£900,000	£2,000,000
Cost assumptions and calculations	<ul style="list-style-type: none"> Strategic: £30k p.a. per partner. Programme: £10k p.a. per partner Project: n/a (BAU costs). 	<ul style="list-style-type: none"> Strategic: £35k p.a. per partner. Programme: £15k p.a. per partner Project: n/a (BAU costs). 	<ul style="list-style-type: none"> Strategic: £40k p.a. per partner. Programme: £20k p.a. per partner. Project: n/a (BAU costs).

Training our people

Vulnerability is not always easy to identify and can be missed during busy periods. It is important we equip our colleagues with the right skills to understand the signs of vulnerability and what they are required to do to meet the needs of customers they interact with who are in vulnerable situations.

Table 11 Vulnerability training target range and cost to achieve

	Low	Medium	High
Target	<ul style="list-style-type: none"> Annual vulnerability awareness training for our customer-facing staff. Safeguarding Champions network across our regions. 	<ul style="list-style-type: none"> Annual vulnerability awareness training for our customer-facing staff and non-customer facing staff. Development of support services for colleagues who may be vulnerable. Enhanced Safeguarding Champions Network (SCN) across our regions, who spend 20% of their time dedicated to promoting safeguarding. The Champions will bring safeguarding alive in a trusted way with their peers – helping to truly embed a ‘culture of care’ across all interactions. 	<ul style="list-style-type: none"> Industry-leading vulnerability training for all our staff. Development of support services for colleagues who may be vulnerable. Line Manager vulnerability training to support staff and colleagues. Enhanced Safeguarding Champions network across our regions, who spend 20% of their time dedicated to promoting safeguarding. With dedicated support from Cadent Directors to escalate issues. Embedding safeguarding/PSR learning into resilience processes and feeding into regional and national forums. Sharing learning across GDNs (e.g. learning taken from incident management).
Cost to achieve (RIIO2 period)	£3.2m	£4.7m	£7.1m

<p>Cost assumptions/ calculation</p>	<p><u>Customer facing staff training:</u> Resource time cost – an average of 2,700 staff trained (1/2 day) @ £100 per attendee time = £270,000 p.a. Development/delivery of course - with 12 delegates per half day course (24 per day = 83 days) @ £2,630 per full day session = £297,700 p.a. Overall cost = £568,430 p.a. (average)</p> <p><u>Safeguarding Champions Network training</u> Resource time cost – c. 75 champions trained (2.5 days) @ £175 per person = £13,125 Development/delivery of training – Number of core areas (5) @ £8000 per area = £40,000 Overall cost = £53,125 p.a. (average)</p>	<p><i>Costs in low target option plus:</i></p> <p><u>Non-customer staff training:</u> Resource time cost – an average of 1,400 staff trained (3 hours) @ £75 per attendee = £106,700 p.a. Development/delivery of course - with 25 delegates per 3-hour course (50 per day = 40 days) @ £1,387.50 = £79,600 p.a. Overall cost = £186,335 p.a. (average)</p> <p><u>Development of support services</u> Resource time cost – c.4,100 colleagues x 30% vulnerability (based on PSR stats for UK) = 1,200 staff requiring support, with 75% assumed take-up @ £75 per support service = £69,750 p.a. (average) Development/delivery of support service – Number of broad topics (8) x cost per development of training/advice service (£5,000) = £40,000 Overall cost = £109,750 p.a. (average)</p> <p><u>Line Manager annual training to support staff</u> Resource time cost – around 75 line managers p.a. trained (1/2 day) @ £100 per person = £7,500 Development/delivery of support service – Covered within staff training = £0 Overall cost = £7,500 p.a. (average)</p>	<p><i>Costs in low and medium target option plus:</i></p> <p><u>Development of a refresher and a higher level of training</u> Resource time cost – c. 4,100 staff (2 hours) @ £50 per person = £205,000 Web-based training hosted on Cadent's core systems = £40,000 Filming of case studies and creation of virtual reality training (including tech required) = £35,000 Virtual reality training for 50% of non-customer facing staff (1000) @ £75 per person = £75,000 Overall cost = £355,000 p.a. (average)</p> <p><u>Development and delivery of resilience training to SCN</u> Resource time cost - Pre meeting attendance (hr. each) @ £50 per person = £3,750 1 meeting per quarter (4 hrs) with 75 champions @ £100 per person = £7,500 x 4 = £30,000 Development/delivery/refresh of training – Number of courses developed (4 – one per network) @ £1,500 per course = £6000 Overall cost = £39,750 p.a. (average)</p> <p><u>Resilience training development for customer facing colleagues</u> Resource time cost – c.2,700 staff trained (1 hour) @ £25 per person = £67,500 Development/delivery/refresh of training = £15,000 Overall cost = £82,500 p.a. (average)</p>
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Innovation

Innovation can unlock many new ways of supporting and protecting CIVS. The Easy Assist ECV and locker cooker valves are some examples of innovative products we developed in RIIO-1. We have an opportunity to build on this and continue to innovate and explore new ideas and methods to help the most vulnerable.

Table 12 Innovation target range and cost to achieve

	Low	Medium	High
Target	<p>Implement and embed well-developed and proven innovations such as:</p> <ul style="list-style-type: none"> • Roll out of Easy Assist ECV. • Easy to read communications. • Extend and embed NEA partnership to support vulnerable customers with gas appliance repair or replacement following an interruption across all networks. 	<p>Implement proven innovations and explore roll-out of less proven innovations such as:</p> <ul style="list-style-type: none"> • Delivery and rollout of bluetooth beacons and rumble strips to aid specific vulnerable groups. • Increased embedding of Mental Capacity Act and supporting mental health innovations. • Innovative welfare services such as the B-warm blanket and alternative ways to (without the use of electricity) of heating a bowl, sink or bath full of water. • Providing PSR customers with updates to outages, pre-warn on outages and other useful information to allow them to plan. 	<p>Implement proven and less proven innovations, and explore and develop new creative ideas such as:</p> <ul style="list-style-type: none"> • The development of a tool that links data that Cadent already have access to; as well as external data (such as weather predictions) to aid colleagues to offer and select the best safeguarding service offerings for each household's situation. • Exploring further technology for PSR registration (e.g. embedding the ability to register on the PSR via Amazon's Alexa and one-PSR industry approach).
Cost to achieve (RIIO2 period)	£18.75m	£24.95m	£31.8m
Cost assumptions and calculations	<p>Target 60,000 customers p.a. for Easy Assist ECV roll out @ £35 (including product and time) = £2.1m p.a.</p> <p>Suite of graphics and developed images across all communications = £50,000 p.a.</p> <p>Extend NEA pilot across all networks (£500k per network) = £2m</p>	<p>Improve accessibility across all streetworks – blue tooth beacons and rumble strips = c. £550 per excavation = £1.2m p.a.</p> <p>EIC innovation, supporting current opportunities for mental health – introducing 4 projects per annum - £250k per project = £1m Technology and process costs - £450k one-off set up and ongoing c. £150k p.a. = £450k (year 1) and £1.15m p.a.</p>	<p>Costs for decision tool - £2m set up and £850k p.a. ongoing years 2-5 = £2m (year 1) and £850k (years 2-5)</p> <p>Cost of innovative ways to increase PSR registrations and one industry PSR = £1.4m (over the period)</p>

4. Customer testing



We have tested our commitments in a variety of ways to ensure we have quantitative and qualitative responses across a broad segmentation of customers and stakeholders. We have tested the output measures that we are proposing and gathered feedback where options exist. This phase was called business options testing (BOT). Alongside customer testing, we have targeted specific groups such as hard to reach, seldom heard, future generations, those in fuel poverty and businesses such as micro-businesses. We really wanted to understand if had heard correctly what our customers and stakeholders wanted and needed from us.

During options testing, we shared the bill impacts to ensure our customers and stakeholders were fully informed before making choices.

Once we had gathered all the feedback from the options testing phase, we conducted acceptability testing to check our plan in readiness for our final plan submission in December.

4.1. Business options testing (BOT) and Triangulation

PSR awareness conversations, partnerships and innovation

During phase one of our engagement, customers made it clear that there is low awareness about the PSR and that we should do much more in promoting this to all of our customers directly through our existing interactions and through trusted expert partnerships (see Section 1 for further detail).

Using these insights along with other business insights we developed our options and calculated the cost of these options and the bill impact. Next, we tested these proposals with our customers to understand customer preferences, as the impact on bills could then be considered.

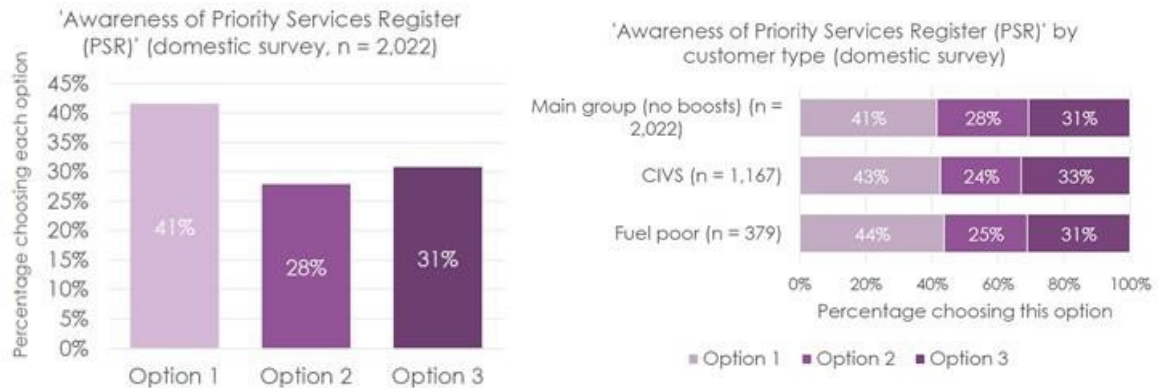
We put forward the following options and bill impacts to our customers as part of the BOT quantitative survey with more than 2,000 customers.

Table 13 PSR BOT survey proposals

	Option 1: Low	Option 2: Medium	Option 3: High
What Cadent could do	<ul style="list-style-type: none"> 500,000 PSR conversations Develop 5-7 partnerships per year Implement proven innovations 	<ul style="list-style-type: none"> 1 million PSR conversations Develop 12-14 partnerships per year Implement proven and unproven innovations 	<ul style="list-style-type: none"> 2 million conversations Develop 23-26 partnerships per year Implement proven, unproven and creative innovations
Additional cost on customer bill per year	£0.16	£0.29	£0.32

The favoured option in the domestic BOT quantitative survey was the low option; to have 500,000 PSR awareness conversations, work with a small number of partners to support those who are most vulnerable and roll out proven innovations to support CIVS (this option got 41% of the votes). CIVS and fuel poor customers were also supportive of the low option, which received 43% and 44% of their votes respectively. The most popular response amongst small business customers also preferred the low option, which received 41% of the overall votes.

Figure 1 PSR BOT survey results

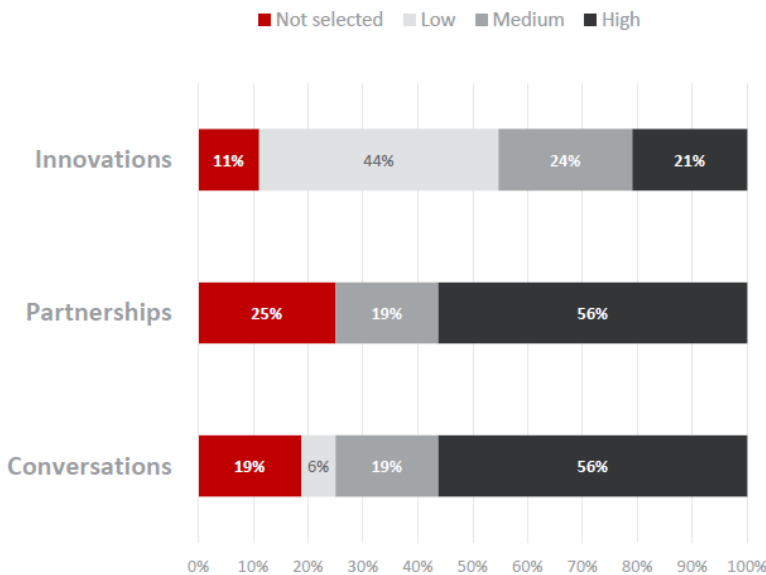


Strength of preference analysis, however, showed that those who supported high option had the greatest strength of preference at 7.86 out of 10. Whereas the low option had the lowest strength of preference at 6.34.

As results were significantly different from the initial feedback from customer engagement, we decided to undertake qualitative engagement during follow-on workshops across our four networks to review these findings and explore customers' preferred package.

During these workshops, customers were shown the quantitative survey results. In the main, customers were not surprised by the results and explained that many may not be aware of the benefits associated with the PSR and that these activities may not be perceived as part of Cadent's core remit.

Figure 2 PSR Qualitative workshop results



The graph shows how frequently each of the topics was selected and at what investment level.

Customers were asked to consider the package in its individual elements and indicated the following:

The majority of customers indicated that that the PSR package should focus on increasing the awareness of the PSR through effective conversations and partnerships with 56% preferring the highest target delivery level for both areas.

However, customers explained that our innovation investment should be focused on initiatives which were seen as having a higher chance of reaching the right groups with 44% selecting the low option.

There were no significant regional differences within the results.

Although the BOT quantitative survey results indicated that the majority of customers preferred the low option, subsequent testing showed that customers preferred a hybrid approach

which encourages us to be ambitious with PSR awareness conversations and partnerships but to target innovation on the most effective initiatives. It must be noted that innovation costs were included within the testing of this option and contributed significantly to the impact on the customer bill.

In addition, we have taken into account best practice across the industry and the insight of experts, such as Citizens Advice, who have encouraged us to do more to increase awareness of the PSR and work with expert partners. These are the main factors, along with the deliberative workshops, that we gave greater consideration to when making our decision.

Decision: we will commit to implementing and embedding well-developed and proven innovations related to vulnerability but commit to delivering 2 million PSR conversations and forming more than 80 partnerships. We will target vulnerability innovation on the most effective initiatives and fund this through the Network Innovation Allowance and other funding mechanisms

Training our people

With respect to PSR training, we put forward the following options and bill impacts to our customers as part of the BOT Quantitative Survey with more than 2,000 customers.

Table 14 Training BOT survey proposals

	Option 1: Low	Option 2: Medium	Option 3: High
What Cadent could do	<ul style="list-style-type: none"> Annual vulnerability awareness training for frontline customer-facing staff. Safeguarding Champions Network across all our networks. 	<ul style="list-style-type: none"> Annual vulnerability awareness training for all staff. Enhanced Safeguarding Champions Network across all our networks with time dedicated to promoting safeguarding. 	<ul style="list-style-type: none"> Industry-leading training for all staff and development of support services for staff. Increased resource for safeguarding champions so they can do more work at a local level.
Additional cost on customer bill per year	£0.04	£0.06	£0.10

The low option to provide annual awareness training for front-line customer-facing staff only and create a Safeguarding Champion network across the regions received the most votes (43%). The medium and high options received 24% and 32% of the votes respectively and involved providing support services for internal staff and an increased role and resources for the Safeguarding Champions. Although CIVS and fuel poor voters were more likely to support the high option (which received 34% and 35% of the votes respectively), results show that the low option remained the most popular, with 42% and 43% of the votes. Small business customers also showed a preference for the low option, which gained 43% of the votes in the survey.

Table 15 Training BOT survey results



However, preference analysis showed that those who supported the high option had the greatest strength of preference at 7.95 out of 10. The medium option had the lowest strength of preference at 6.97 out of 10.

During our early engagement workshops, we engaged at a high level with customers and experts and heard clear feedback that ensuring that employees are adequately trained is critical and that doing so should be funded. Nevertheless, it was not clear at this stage the degree to which we should train our staff (all of them, or just those typically engaging directly with customers). There are benefits of both approaches, with the former supporting a much more informed culture across the organisation but costing more to deliver. The latter allows more focussed training and the results to be seen on a daily basis.

We tested customers' and experts' preferences during our BOT phase, looking at the options in the table. This helped us to narrow our specific commitment and it was clear through the research that greater value was perceived in a targeted training regime to front-line staff, which is why we have opted for this approach. It should be noted that in our July plan we assumed the high option for all of our prospective outputs, hence the cost has reduced in our October plan (and is the same in December).

Decision: we will be providing vulnerability (classroom based) training to customer-facing staff only and implementing an enhanced Safeguarding Champions network. We will continue to provide general awareness training to all employees each year.

Summary

Customers and stakeholders are clear in that raising awareness of the PSR is a priority, and we have listened and acted on this by committing to the highest delivery targets for direct PSR conversations. This will really test our deliverability in this area, but working with our expert partners, we are ready for the challenge.

Our commitments to develop innovative solutions and train our people have been levelled appropriately based on customer feedback. Customers were a little more cautious in terms of how much we should commit to unproven innovation, therefore we have reduced our ambition in this area. This means we can focus on really getting the proven technology right to better serve CIVS.

Customers saw benefits in training all our staff on how to understand and act on vulnerability, but they could also appreciate that just training front-line customer facing staff would ensure that the training was focused and would deliver the most benefit. Overall, the BOT testing results combined with qualitative research led us towards focused training for front-line staff only, reducing our original targeted delivery level for training.

4.2. Acceptability testing of our quality experience customer outcome

In our acceptability testing, the quality experience aspects of our business plan, including protecting CIVS, were generally found to be acceptable:

- Of domestic customers, 83% of those surveyed found the quality experience section of the plan acceptable, and only 1% found it unacceptable. When asked what would make it acceptable, those who answered that they found it neither acceptable nor unacceptable suggested a further reduction in prices (14%) or wanted more detail on how it would be implemented (6%). This was broadly consistent across the regions.
- 49% of Cadent business customers said that they found the quality customer experience aspects of Cadent's business plan "very important" and 37% "fairly important" (86% in total). The breakdown across business sizes was broadly consistent, but overall acceptability increased with business size, with the percentages finding the plan either very acceptable or acceptable being 79%, 87% and 90% for sole traders, businesses with 1-9 employees and business with 10-49 employees respectively. Customers said that a quality experience was an essential element of delivering a service. However, some customers questioned the feasibility of the plan and some terms used (such as fuel poverty or PSR) were not understood. Many business customers said that the proposals around fuel poverty and supporting those in vulnerable situations demonstrated that Cadent were making efforts to go above and beyond their remit.

Our commitments relating to protecting CIVS were supported in most qualitative acceptability testing:

- Across all workshops, customers were happy with the level of support that Cadent was offering. They felt that Cadent was 'doing the right thing'. Some felt that charities and foundations should take better

care of vulnerable people in society, but in the absence of this, it made sense that Cadent was stepping in. The quality experience outcome was not without its critics as, at our acceptability testing focus groups with the general population, the quantities felt arbitrary to the participants. They wanted Cadent to make clear how these numbers were decided. There were mixed views and mixed support for Cadent's efforts to protect vulnerable customers. Participants landed on why questions: why that number? Why this action? Why is Cadent doing this? Participants suggested several ways in which Cadent could improve these aspects of the plan, including:

1. Echoing general concerns about the plan, participants felt that benchmarking, context, and more transparent rationale would improve the clarity of the vulnerable customer commitments.
2. Similar to customer forum members, participants suggested that Cadent provide a clear means testing approach.

Several customers were concerned about customers footing the bill for these [social] initiatives, especially where they felt Cadent was not being transparent about its motives.

- Participants at our acceptability workshops with CIVS agreed that the PSR needs to be more widely advertised and customers support Cadent's plans to adopt several methods to achieve this, including working with local charities and partnerships. Largely, customers agreed that Cadent should prioritise raising awareness of all its initiatives (including PSR) but some also suggested that there should be more accessible information about who Cadent are in general and how to call them in an emergency. Most participants commented that they had never heard of Cadent prior to being involved with the engagement. Customers were supportive of the proposed customer service solutions and the innovations put forward to improve support for those in vulnerable situations.
- Customers at our acceptability testing focus groups with those in fuel poverty felt that Cadent is going 'above and beyond' to support those in vulnerable situations. There was strong support for welfare provisions for CIVS. One customer mentioned that some might struggle to accept help, so vulnerability training would also be needed.
- Participants at our acceptability focus groups with future customers were split on how Cadent should help vulnerable customers. They thought that some areas, such as vulnerability training and helping people in winter, should be 'standard practice', while others, such as the community fund were too far 'above and beyond' and 'not in [Cadent's] job description.
- Participants at our acceptability testing customer forum wanted more clarity surrounding needs assessments. The PSR and partnership working continue to be popular amongst customer forum members. Participants were very supportive of Cadent's commitment to provide vulnerability training to frontline staff, describing it as the 'ideal scenario'. Participants wanted more clarity surrounding needs assessments.
 - The majority of discussion on this outcome area focused on how Cadent would ensure that their efforts were targeted at those who needed support most. Concerns raised included:
 - Fuel poverty interventions and the measures to protect vulnerable people would not go to the 'right' people.
 - Those most in need would have difficulty accessing provisions.
 - Some customers might try to take advantage Cadent's more philanthropic initiatives, e.g. repairing and replacing a boiler for free. They want Cadent to explain how robust needs assessments will be conducted.
 - The working poor would be missing out on these initiatives.

Feedback from the Carer's Trust in October 2019 agreed with prioritising meaningful conversations to raise awareness about the PSR, noting that it is important to raise awareness to ensure that the right audiences are accessing it. They also noted that Cadent's approach to partnerships seemed highly sensible and practical and were in favour of the SCN, suggesting an incentive for staff to join as champions. They agreed that it is important for staff to understand PSR codes. Otherwise, they might not be able to use them properly and they might not be able to signpost to our local Network Partners or to other charities as needed. The Carer's Trust also said that co-creation is very valuable and there should be an element of the carer/beneficiary involvement as part of the process if possible.

Rural England were “Wholly supportive of this [PSR awareness] priority. Raising awareness of the PSR in rural areas is essential due to the increasing number of older people who live in isolation”.

National Energy Action said “This plan sets out some very positive and welcome activities to support vulnerable householders and it is important to ensure that activities are joined up across departments wherever practicable, mainstreamed to ensure continued delivery and longevity. In addition, PSR needs to be focused not just on numbers, but on quality as we would be concerned that if it captures too many people then it ceases to become a meaningful priority register – it has to capture the right people. It’s also key that people aren’t just signed up to the PSR but made aware of what they get from it.”

Queen Alexandra College said “I genuinely think it is so refreshing to see the approach Cadent are taking with regard to safeguarding your customers. I think the approach set out in your business plan looks well structured and ambitious. I particularly like the idea of the Safeguarding Champions Network as I think that will really help drive conversations between your colleagues and provide the important peer to peer support that is required when providing safeguarding to customers. I also like the fact that you have taken the approach that customers will require interactions through various channels and there is not a one size fits all solution for your customers”.

Disabled Living said “The direct conversations Cadent can have, when employed efficiently could contribute significantly to a safer society in addition to improving customer service and increasing revenue. By thinking creatively and with appropriate training, Cadent can not only increase their numbers on the PSR but make invaluable contributions to a person’s safety at home with all the positive impacts this has on a person and the community, both psychologically and financially.”

As part of the Verve business plan consultation, a quality experience was seen as critical obligation for any organisation. Most customers saw this as a hygiene factor and it surprised a few that it was part of the plan, although many welcomed it being spelt out. Many expected the commitments to be manageable, though no customers had any real experience of Cadent’s services. Providing detail of what the commitments should entail provides comfort, though failure to deliver will quickly harm trust. Reliability and reassurance in relation to safety and service delivery stood out. Some customers had issues with jargon e.g. PSR and some commitments felt hard to achieve. Despite Cadent admitting that direct contact with their customers is rare, the promise that they are available, if needed, was reassuring.

5. Our commitments



5.1. Our commitments for identifying needs and joining up support services in RIIO-2

Over the RIIO-2 period we will measure and report on the following bespoke output commitments leading to benefits to our current and future customers.

Table 16 Our output commitments

Output commitment	Measure definition	Benefits to current customers	Benefits to future customers	SROI/WTP value over RIIO-2 period
2 million PSR conversations	Number of direct PSR conversations through existing interactions and partnerships	<ul style="list-style-type: none"> CIVS prioritised and protected PSR information sharing leads to benefits from other utilities 	<ul style="list-style-type: none"> Increased awareness of PSR will lead to future registrations from customers who do not currently qualify but may do in future 	£0.57m
82 partnerships to support CIVS	Number of partnerships to support CIVS	<ul style="list-style-type: none"> Increased reach of services through trusted partners 	<ul style="list-style-type: none"> Established and continually expanding the network of trusted partnerships 	
Annual awareness training for all customer-facing front-line staff	Number of customer-facing staff trained	<ul style="list-style-type: none"> CIVS will receive enhanced services grounded in knowledge 	<ul style="list-style-type: none"> Long-term benefits of enhanced services received from greater staff awareness of vulnerability 	

What would the future look like (RIIO-3 and beyond) as a result of embedding our commitments?

CIVS are no longer seen with a stigma associated, people actively engage with one utility PSR and companies have a set of services for all, so that customers are able to select services based on their individual needs.

5.2. Assessment of how to treat commitments

Ofgem is considering several regulatory framework packages to address vulnerability. These packages contain items from the following:

- Maintaining or improving the minimum standards set in RIIO-1. This includes maintaining the existing licence obligation to provide additional services to specified customer groups. Ofgem also proposes a potential enhancement to GSOP 3, and a new principles-based licence obligation with requirements to identify and understand CIVS.

- Using ODIs to encourage network companies to go beyond minimum standards. This includes potential reputational ODIs to highlight strong performance in this area and to raise awareness for those who have not addressed it.
- Introducing a price control deliverable (PCD) in the form of a ‘use-it-or-lose-it’ allowance that will cover consumer vulnerability and carbon monoxide safety awareness, going beyond business as usual.
- Specific innovation funding for consumer vulnerability within the Network Innovation Allowance.

Ofgem has stated within its Sector Specific Methodology Decision that they intend to implement the combined package. Ofgem believes that this option provides an appropriate level of flexibility to support innovation in this area, but also sets out the minimum service level expected from GDNs.

We have undertaken an assessment of our proposed bespoke outputs against Ofgem’s criteria in order to understand the best form of regulatory treatment.

Table 17 Regulatory treatment assessment

Regulatory treatment	Criteria	Rating	Further explanation of assessment
Reputational ODI	Demonstrate this is important to customers and/or stakeholders	Green	Our insight from customers and stakeholders shows support for improving the level of service we provide to customers for this output.
	Funded elsewhere in our plan, or inappropriate for funding	Red	This output is not funded elsewhere in the plan and is appropriate for funding in line with Ofgem’s proposals.
	Can robustly measure performance improvement	Yellow	Elements of our preferred option by nature are not associated with a distinct measure of performance.
Financial ODI	Demonstrate this is important to customers and/or stakeholders and they are willing to pay	Green	Our insight from customers and stakeholders shows support for improving the level of service we provide to customers for this output. We do not have relevant information on willingness to pay for this output.
	Not funded elsewhere in our plan	Green	This output is not funded elsewhere in the plan and is appropriate for funding in line with Ofgem’s proposals.
	Can robustly measure performance improvement	Yellow	As described for Reputational ODI.
Price control deliverable	Specific deliverable with clear timeline and targets	Green	Our preferred option for this output contains elements of specific work programmes to improve the level of service we provide to CIVS.
	Demonstrable benefit to customers which they support	Green	Our preferred option for this output will bring about a step-change in how we serve vulnerable customers, improving our identification and also introducing innovative solutions to problems they may face.
Licence obligation	Absolute minimum, with significant customer harm if we do not deliver it	Red	Our preferred package goes beyond the minimum Licence Obligations included in the D13 licence condition, and in the application of GSOP 3. Ofgem has proposed further enhancements to Licence Obligations, including a new principles-based obligation relating to identifying and understanding CIVS.

	Applicable to all GDNs		For this output, we have undertaken work specifically to understand the challenges and needs of customers in our area.
Business Plan Incentive	Adds to the quality of our plan, but not a specific deliverable or performance measure		Our preferred option for this output includes specific programmes of work.
	Funded elsewhere in our plan, or inappropriate for funding		This output is not funded elsewhere in the plan, and is appropriate for funding in line with Ofgem's proposals.

Doesn't meet criteria	Weakly meets criteria	Partially meets criteria	Meets criteria	Strongly meets criteria
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We are therefore supporting Ofgem's proposal for a 'use-it-or-lose-it' allowance in the form of a PCD for our bespoke outputs. This will allow us the flexibility to develop a package to improve our approach to identifying the needs of CIVS. This is in line with Ofgem's draft proposals in relation to customer vulnerability. Many of our proposals to identify and improve customer vulnerability are not associated with distinct measures of performance. However, the social return on investment we deliver through the activities can be used to prioritise activities funded through the common use-it-or-lose-it allowance. It is important, however, to be aware that SROI is not the only reason a project should or would be progressed. Supporting licence conditions and safety also are paramount.

Table 18 Measures and targets for identifying your needs output commitments

Output	East of England	North London	North West	West Midlands	Cadent	Comparison to RIIO-1	Cost to deliver
Standard special condition DX1: Treating domestic customers fairly	Zero failures	Zero failures	Zero failures	Zero failures	Zero failures	New licence obligation	£0
PSR awareness conversations	760,000	380,000	500,000	360,000	2,000,000	Not measured in RIIO-1	£2m
Partnerships	Form a minimum of 82 partnerships across our footprint					Not measured in RIIO-1	£2m
Annual Awareness training	c.3,000 front-line members trained every year					New measure	£3.7m
Annual showcase event	Annual report on common vulnerability service metrics					New measure	£0

5.3. Funding our commitments

We propose to fund our commitments through the use it or lose it (UIOLI) allowance and bespoke PCDs. We recognise that our costs associated with proposals on vulnerability go beyond the £30m joint fund proposed by Ofgem, of which approximately £11.5m will be allocated to Cadent.

However, our evidence suggests that customers and stakeholders are encouraging us to provide enhanced services related to identifying the needs of vulnerable customers.

Therefore, we propose that those initiatives which deliver the greatest net social value (i.e. SROI considered with delivery costs) are prioritised first through the common UIOLI allowance, and then bespoke PCDs set for initiatives beyond this.

In Chapter 7.3 we have shown a ranking of the benefits of all the vulnerable initiatives in terms of overall value and by value per pound invested which could be used to prioritise against the Ofgem mechanism.

6. Delivering our commitments



6.1. How we will deliver our commitments

We will deliver our commitments through a number of different channels across our business:

Table 19 Delivering our commitments

Area	What we will do to deliver commitments
Customer communications	<ul style="list-style-type: none"> PSR conversations will continue across all our customer-facing services. We will work with our partners to increase the volume of conversations we have to reach wider audiences. We will support our people to have meaningful conversations and support the customer/household to register where they wish and provide their explicit consent to do so. We will weave PSR discussion and awareness through creating training for partners to support consistency in how benefits are shared.
Processes/ systems	<ul style="list-style-type: none"> Our systems will be updated with the latest PSR data as we get it. This data will help us to understand the vulnerability landscape and shape the services we deliver for CIVS. We will continue to drive improvements related to our actions, products and services and share these through innovative developments to the tools and techniques available for use via systemised methods where possible. We will share relevant systems (i.e. referral system) developed with partners to benefit their processes in connecting those they support to services within their area.
Partnerships	<ul style="list-style-type: none"> We will increase our breadth of partnerships in order to serve harder to reach CIVS and ensure they have access to the services they need. We will collaborate with GDNs and the wider industry to deliver joint initiatives to identify and support CIVS. We will look to work with other industry participants and other industries to improve the consistency in how CIVs are supported in everyday, emergency and resilience situations.
Engagement	<ul style="list-style-type: none"> Engagement will continue across the industry with charities, advisory bodies, gas distribution networks and other utilities to share best practice and ensure a consistent application of PSR data. We will contribute to the annual showcase event to exhibit our vulnerability initiatives and share best practice.

6.2. How we will protect against non-delivery

Table 20 Protecting against non-delivery

Regulatory tool	How it will help in protecting customers from non-delivery
Principles-based licence obligation	<ul style="list-style-type: none"> The licence obligation will require GDNs to treat all domestic customers fairly, including CIVS.
Use it or lose it allowance – Price Control Deliverable	<ul style="list-style-type: none"> Funding for a number of vulnerability activities has been allowed by Ofgem in a ‘use it or lose it’ format or PCD. Any funding not used by GDNs will be returned in full to customers.

Appendix 07.03.10 Carbon Monoxide (CO) awareness

This output case describes our overall approach to reducing the potential harm to customers from Carbon Monoxide (CO) through a customer awareness programme, alarm distribution and additional work beyond the meter to repair or replace faulty appliances following a CO incident.

In RIIO-1 we held ourselves to account for the following reputational commitments for CO awareness:

- Deliver 2.1m CO service contacts (via CO incident visits and CO awareness surveys).
- Distribution of 105,000 CO alarms.

During RIIO-2 we will continue our work to raise the awareness of the dangers of CO and want to stretch ourselves by delivering the following commitments based on customer and stakeholder feedback:

- Distribute 3 million CO alarms to customers who do not have one, predominantly through strategic partnerships which we will form to increase our reach.
- Educate 200,000 customers of the potential risks associated with CO through face-to-face, classroom based educational sessions, building on the strong foundations we have set in RIIO-1.
- Repair or replace 15,000 faulty appliances that we identify when responding to a CO emergency job. We will train our engineers to be able to identify potential vulnerability, which could be that the customer is living in fuel poverty, so that they can refer certain cases to a strategic partner. This partner that we appoint will have the ability to assess the customer's eligibility for a repair/replacement based on those who could not otherwise easily arrange or pay for the repair/replacement. This partner will then arrange for a qualified gas fitter and any materials to enable the repair/replacement to be made.

We will deliver:

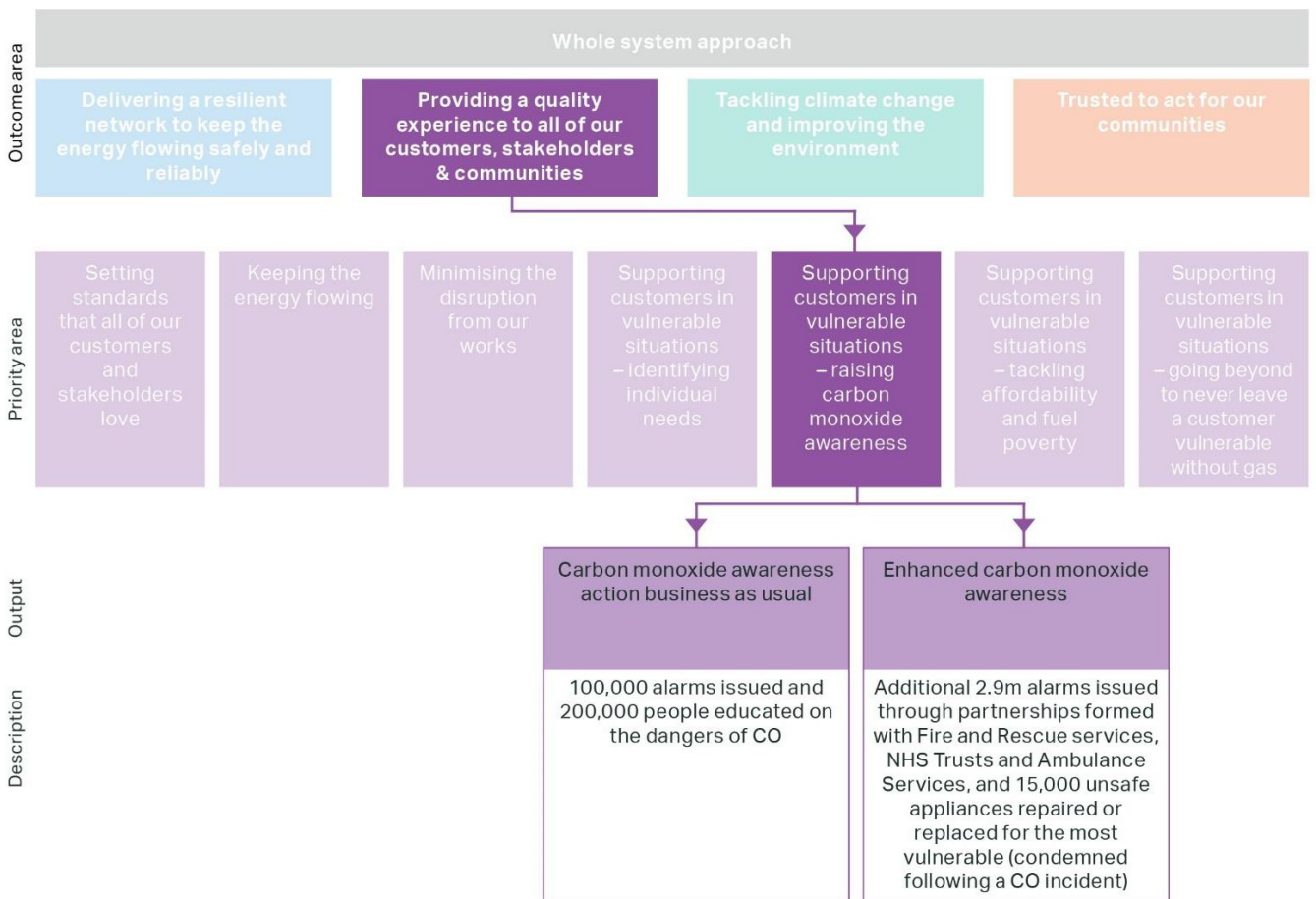


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How we have developed our proposals

- We started with the aim of our customer vulnerability strategy** – We aim to keep our customers warm, independent and safe in their homes. Therefore, it is important that we continue to raise awareness of the dangers of Carbon Monoxide (CO) poisoning and intervene to prevent harm from this colourless, odourless toxic gas that can escape from poorly maintained flues and appliances.
- We reviewed how we currently measure the delivery of our CO awareness activities** – We currently aim to reach those customers who are most vulnerable by carrying out an awareness survey and issuing an alarm, but this does not capture the full extent of our CO awareness work.
- We understand the scale of the problem** – Around 50 people die every year from CO poisoning, 4,000 people go to Accident and Emergency and 200 are hospitalised. We believe this is just the tip of the iceberg and have mapped the hotspots across our footprint so that we understand the areas at greatest risk of CO poisoning.
- This provided us with a clear problem statement** – CO is the ‘Silent Killer’ that continues to put families at risk. We want to do more, working with our partners, to help educate customers on the dangers of CO and help to keep our customers and the public safe.
- We have applied our own lessons learnt from RIIO-1** – It is not just those who are most vulnerable who are at risk from CO poisoning. We must continue to innovate to deliver solutions to help reach all customer groups and provide them with the knowledge they need to protect themselves from the dangers of CO.
- We gathered insights from targeted engagement** – There is low awareness of the dangers of CO across the customer groups surveyed. However, during engagement they prioritise CO awareness and believe that Cadent should build on the positive work already done to reach wider audiences.
- We have looked at what others are doing to achieve this challenge** – We have taken learning from the Fire and Rescue Service targeting reduction in smoke/fire related deaths. GDNs are following Cadent’s lead in rolling out successful CO education programmes such as Safety Seymour in schools.
- We assessed how far the current measures and Ofgem’s proposed measures take us against the good practice identified** – The current CO regulatory measures are narrow and only allow for limited customer groups to be reached. We want new measures to provide the flexibility for us to reach wider audiences and satisfy the needs of our customers and stakeholders.
- We have developed and considered a number of options** - Based on these insights and best practice, we have developed five options: (1) continuing with the existing Ofgem CO requirements, (2) locating the source of CO, and, where possible, isolating the appliance, (3) repairing or replacing the CO emitting appliance, (4) providing alarms to any customer on an emergency visit who requires one, or (5) all options combined.
- We tested these options with our customers** – Given the overwhelming support from across our customer and stakeholder community, we will continue our work to keep customers and the public safe from the dangers of CO and increase the scale of our work to satisfy customer needs.
- Our commitments** - We are proposing a common output commitment across GDNs that will see us continue to educate and issue alarms to the most vulnerable. To reflect the desires of our customers and stakeholders, we also want to introduce a bespoke measure that would see us issue a further 2.9m alarms, create further partnerships with NHS Trusts and Ambulance Services and widen our existing

- partnerships with the Fire and Rescue Services. We also want to offer an appliance repair or replacement service to customers who are most vulnerable.
12. **We are seeking £34.1m in funding to deliver this** – However, we calculate a net benefit of £22.5m in delivering these commitments.
 13. **We have already started delivering** - We have strong partnerships in place with the Fire and Rescue Service and have begun reaching out to NHS Trusts and Ambulance services. This will provide us with the platform to reach more customers than ever before in RIIO-2.
 14. **What will the future look like after we embed our RIIO-2 commitments?** – Our approach in RIIO-2 will significantly reduce the prospects of people being harmed by Carbon Monoxide and sets in train the removal of incorrect diagnosis of symptoms. By the end of RIIO-3 we envisage that every home in our footprint will have a lifesaving CO alarm installed and no one is being harmed by Carbon Monoxide in their home. We have legislation supporting the installation of alarms in all rented accommodation and all new builds.

The tables below summarise our commitments in this area:

Table 1 Summary of our commitments

CO education	
Common / Bespoke	Common
Output type	Price Control Deliverable
Comment	Directly educating school children about the dangers, signs, and symptoms of CO poisoning
Target	Educating 200,000 of the dangers of carbon monoxide over RIIO-2
Cost implications (annual)	£0.42m
Incentive range	N/A
CVP	-£0.9m, but positive over RIIO-3

Carbon monoxide alarms (base level)	
Common / Bespoke	Common
Output type	Reputational
Comment	Alarm provision to customers at risk
Target	100,000 alarms issued over RIIO-2
Cost implications (annual)	£0.16m
Incentive range	N/A
CVP	N/A

Carbon monoxide alarms (incremental)	
Common / Bespoke	Bespoke
Output type	Price Control Deliverable
Comment	Additional alarms issued, through effective partnerships, to all customers who don't own one
Target	2,900,000 alarms issued over RIIO-2
Cost implications (annual)	£4.44m
Incentive range	N/A
CVP	-£5m, but positive over RIIO-3

CO partnerships	
Common / Bespoke	Bespoke
Output type	Price Control Deliverable
Comment	Partnerships with all F&RS, NHS trusts, and ambulance services on our footprint
Target	100% partnerships with all F&RS, NHS trusts, and ambulance services by the end of RIIO-2
Cost implications (annual)	£0.08m
Incentive range	N/A
CVP	CVP combined with CO alarms

Repair or replace appliances following CO visit	
Common / Bespoke	Bespoke
Output type	Price Control Deliverable
Comment	Working with experts to offer customers in vulnerable situations (CIVS) appliance repair or replacement if it is condemned during a CO visit
Target	15,000 unsafe appliances repaired or replaced over RIIO-2
Cost implications (annual)	£1.72m
Incentive range	N/A
CVP	£28.5m

1. Defining our customers' needs



1.1. What is the area?

Our customer vulnerability strategy has been established with the aim to keep all our customers warm, independent and safe in their homes. It is important to keep customers safe from the dangers of Carbon Monoxide (CO) poisoning by raising awareness and increasing knowledge through education, providing CO alarms and offering additional services for those who are at most risk.

Carbon monoxide is a colourless, odourless, tasteless, poisonous gas produced by the incomplete burning of carbon-based fuels, including gas, oil, wood and coal, commonly referred to as 'The Silent Killer'. Carbon-based fuels are usually safe to use; however, when the fuel does not burn correctly, excess CO is produced, which is poisonous. When CO enters the body, it prevents blood from bringing oxygen to cells, tissues, the brain and other organs.

Around 50 people die every year from CO poisoning caused by gas, oil and solid fuel appliances (such as BBQs) and flues that have not been properly installed or maintained or that are poorly ventilated. Around 4000 people go to their GPs or Accident and Emergency, and 200 are hospitalised.

Gas networks and the wider industry has made significant progress in raising awareness of the dangers of CO and providing safeguarding services to the most vulnerable, including the provision of CO alarms. This has supported the downward trend in CO related fatalities over the years. However, there continues to be health related issues due to low CO alarm ownership and low awareness and knowledge about the dangers associated with CO.

Figure 1 Natural Gas CO fatalities in the UK

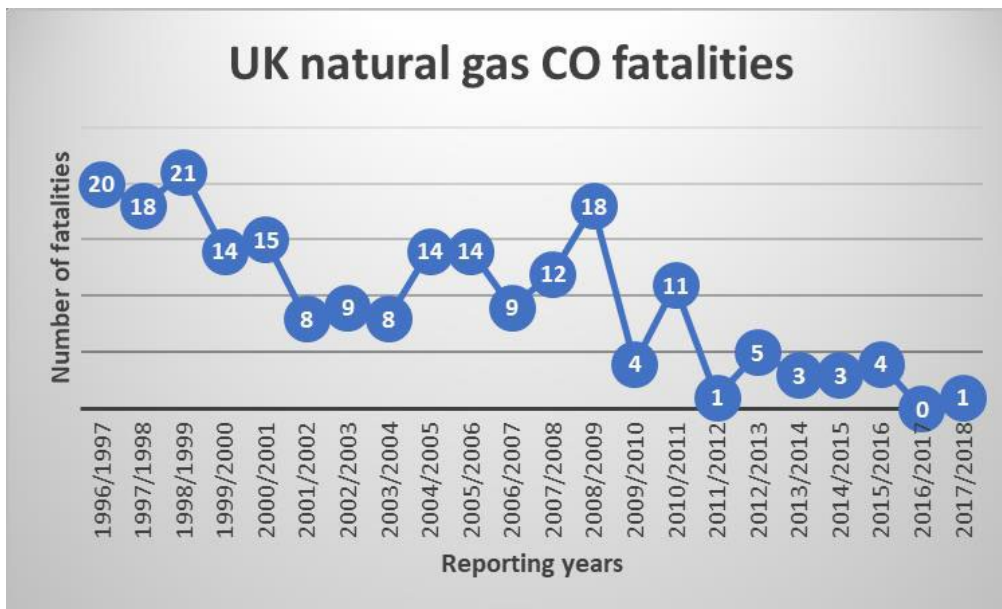


Figure 2 UK CO fatalities (all fuel types)

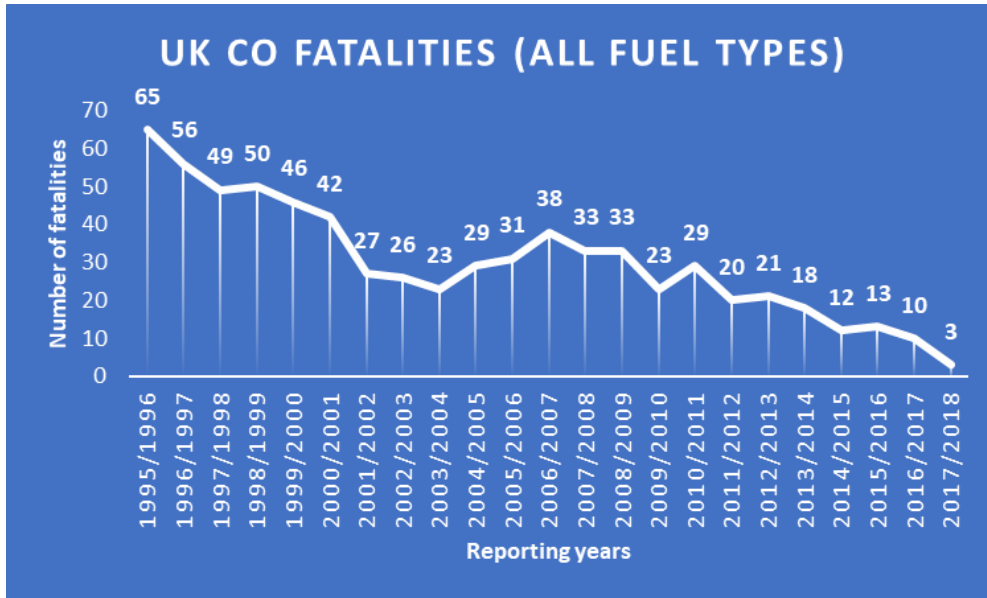
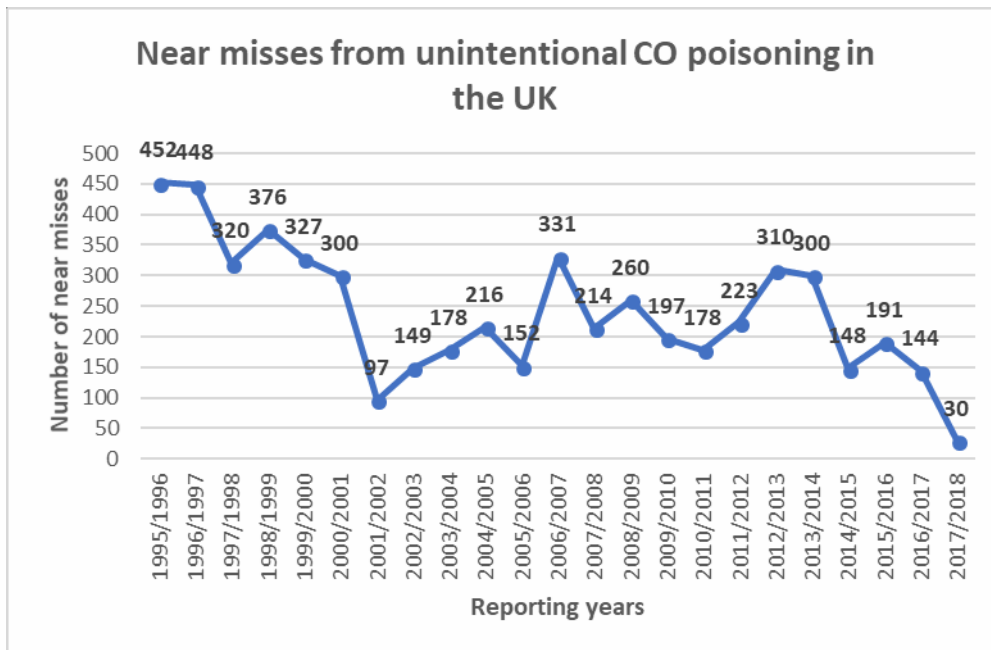


Figure 3 Near misses from unintentional CO poisoning in the UK



All data sourced from CO-gassafety.co.uk

Of the 5,541 near-misses from unintentional CO poisoning in the UK (from 1995 to 2018), more than 2,350 required hospital treatment and over 450 had lost consciousness.

1.2. Why is it important to customers and stakeholders?

Our customers prioritise safety above all other priorities and have highlighted the importance of safeguarding the most vulnerable in society. CO safety is a core part of our expertise and customers expect us to continue to respond to CO related emergency incidents and raise awareness of the associated dangers through education in addition to the provision of CO alarms.

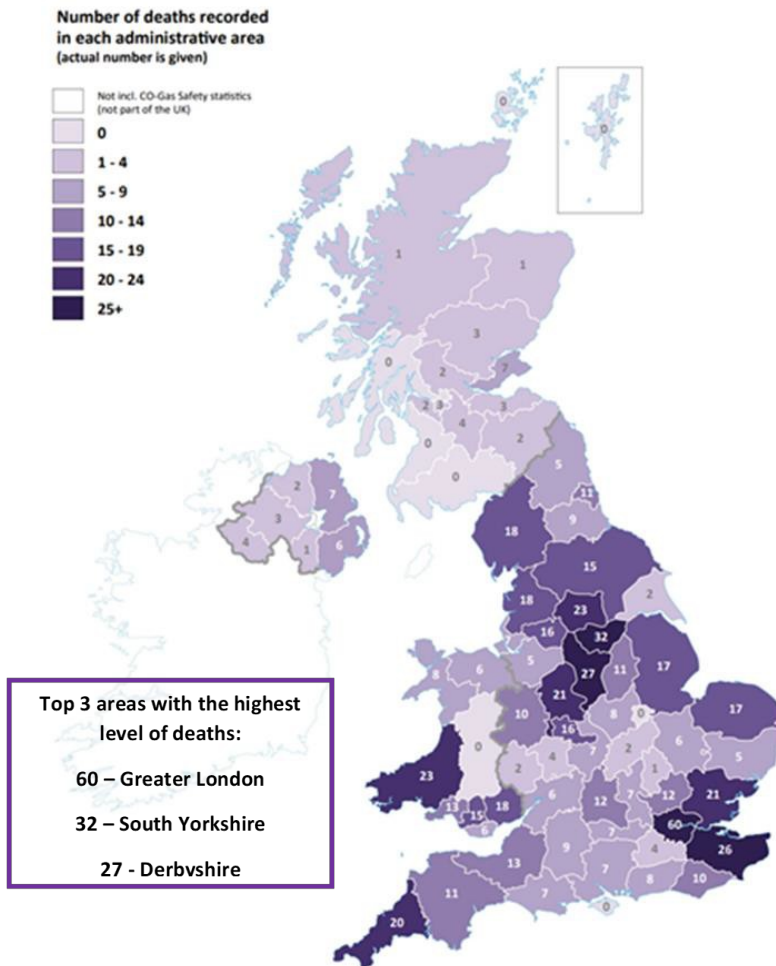
Research from Energy UK's 'CO Be Alarmed!' campaign reveals that one in three Britons (over 17 million people) are at risk from CO poisoning as they do not have a CO alarm in their home – despite nine in ten (94%) saying they are aware of the risk. Although this survey suggests awareness of CO is high, the evidence from our surveys on the ground during RIIO-1 suggests that knowledge is low. Cadent CO survey data from 5010 respondents rated their knowledge as 5.07/10 on average. The key difference between awareness and knowledge is that the latter allows the individual to identify the signs of CO and take the required action. The research also reveals that people in Liverpool are most at risk, with almost half (47%) saying that they did not have a CO alarm. Norwich and Manchester are also among the top ten cities most at risk, with over 40% saying they do not have a CO alarm.

Table 2 Energy UK's 'CO Be Alarmed' data on cities most at risk from CO poisoning

Top 10 cities most at risk from CO poisoning	Percentage of people saying they did not have a CO alarm
Liverpool	47%
Norwich	44%
Manchester	42%
Leeds	42%
Nottingham	39%
Belfast	39%
Plymouth	38%
Birmingham	37%
Newcastle	36%
Bristol	35%

Figure 4 UK deaths from unintentional CO poisoning

LOCATION OF INCIDENT relating to UK deaths from unintentional carbon monoxide poisoning from 01.09.1995 to 31.08.2018



Four out of the top five cities most at risk from CO poisoning are in Cadent's footprint (highlighted in the table 2), which equates to around 7.26m homes. These statistics sit alongside the location of incidents relating to UK deaths from unintentional CO poisoning from 1995 to 2018 (see figure 4 from CO-Gas Safety). The top three areas with the highest level of deaths are all within Cadent's networks. This reinforces the need for Cadent to lead the national debate on CO safety and to continue promoting awareness.

1.3. What insights are shaping our thinking?

Sources of insight



12,607
Stakeholders and customers engaged



27
Sources of insight



25
Tailored RIIO-2 engagement activities

We engaged with the following customers and stakeholders across a range of methods about their viewpoints on how we currently keep customers safe from the dangers of CO and what we should deliver through the RIIO-2 period.

Table 3 Customers and stakeholders engaged

Customers	Partners
<ul style="list-style-type: none"> • Domestic customers • CIVS • Small businesses • Future customers • Fuel Poor customers • English as a second language customers • Non-English-speaking customers • Employees 	<ul style="list-style-type: none"> • Fire and Rescue Service • Local Authorities and Councils • Referral partners including Social Services • GP surgeries • Schools • Fun Kids Radio
Industry and influencers	Charities and Expert Stakeholders
<ul style="list-style-type: none"> • Gas Distribution Networks • All Party Parliamentary CO Group • Ofgem • Energy UK • Policy Connect • Coventry University • Members of the public 	<ul style="list-style-type: none"> • National Energy Action • CO Gas Safety • Katie Haines Trust • Dominic Rodgers Trust • Sustainability First • Citizens Advice • Disabled Living • Age UK • Hackney Playbus • Alzheimer's UK • Part-sight • Sense • Royal Association for Deaf • Islington Chinese Association

Insights were gathered through historical engagement, BAU insights, and our RIIO-2 engagement programme. We have summarised each activity, the questions asked (where applicable), the numbers involved, and a robustness score based on the following criteria:

Criteria	Robustness		Relevance
The score shown is based on a combination of the robustness of the source information (judged on whether it was recent, direct and representative) and the relevance to this area.	<1.5	One or zero criteria met	Limited relevance
	1.5-2.0	Two criteria met	Significantly relevant and contributory
	>2.0	All criteria met	Highly relevant and contributory

Table 4 Engagement activities

Phase	Date	Source name	Source description	Questions asked	# of stakeholders	Score
Historical Engagement	2018	London Collaboration forum - SGN & National Grid	We held a workshop with stakeholders in our London Network, including other utilities, charities, Local Authorities and Emergency Services. The purpose was to share the work we are doing on street works and customers and community and take feedback from stakeholders.	Attendees were shown our plans for street works such as no-dig techniques and asked to discuss the outcomes we should try to deliver. Following this, they were introduced to our plans for supporting those who need help the most and those in fuel poverty and asked to comment.	47	0.5
	May-19	Research by Balisha Attalia, Coventry University	A Coventry University student performed some primary research, aimed at 18 - 24 year olds, to explore services that Cadent could provide to customers both in the home and the community and services that would attract 18-24 year olds.	Participants were asked if they knew what proportion of their gas bill went towards the provision of Cadent's services. Participants were also told of additional services that Cadent provides such as carbon monoxide alarms and other support for vulnerable customers and asked how important they felt they were an whether Cadent was the appropriate organisation to provide them. Finally, participants were asked if there were any other free services that they would like Cadent to provide to customers in the home and community.	75	1.0
Discovery	Nov-17	2017 regional stakeholder workshops	We held four workshops in different regions to seek feedback from key stakeholders on the early development of our business plan. Each workshop began with a short presentation, followed by roundtable discussions. Electronic voting was also used to ask stakeholders about preferred options.	The workshops explored a number of topics, including safeguarding (e.g. PSR awareness, partnerships and innovation opportunities); the future role of gas and the decarbonisation of home heating. Cadent's general approach to its business plan was also discussed, for example the importance and coverage of the four outcome areas identified, the extent to which the plan should respond to the needs of specific customer groups or regions.	127	2.5

Discovery	Jun-18	Feedback on Cadent CO awareness - Safety Seymour questionnaire and feedback from Derbyshire Fire & Rescue (memory diaries)	We developed an activity pack for young children to provide information about the dangers of carbon monoxide and what safety precautions families can take. 496 parents of children that had used the Safety Seymour activity pack were surveyed about their experience with the pack and whether it had changed their knowledge or behaviours. The feedback received was very positive, with many families taking further safety precautions as a result.	The parents were asked for their family's thoughts about the activity pack: whether it was clear, understandable and useful; whether the programme had encouraged them to take further safety precautions at home; and whether the child had enjoyed and engaged in the activities. Suggestions for improvements were sought as well as specific feedback on the Safety Seymour character.	496	1.5
	Sep-18	Deliberative workshops	We delivered full day deliberative workshops in each of our regions to discuss what services customers find important, find our customer expectations of GDNs and gather feedback on our (at the time) four draft customer outcomes. The sessions began with information-giving and building knowledge of Cadent, then eliciting participants' views of services and priorities.	Participants were asked about their awareness of Cadent and expectations of a GDN. Participants were also asked for their views on the four draft outcomes in Cadent's business plan: keeping your energy flowing safely, reliably and hassle free; protecting the environment and creating a sustainable energy future; working for you and your community safeguarding those that need it most; value for money and customer satisfaction at the heart of all our services. The aim of the discussions was to shape these draft outcomes and identify any gaps.	206	2.5
	Oct-18	Domestic survey	We ran an online survey of a representative sample of our domestic customers (and non-customers). This aimed to test the findings of the earlier deliberative workshops and focus groups.	Participants were asked closed questions on 14 topics we could cover in the business plan (e.g. minimising leaks, affordability) and asked to rate how important they are. They were then asked more open questions about the level of importance and whether anything was missing from the list of 14. Finally, they were asked a multiple-choice question on their preferred engagement methods for the future.	2,332	2.5

Discovery	Oct-18	Focus groups with hard to reach groups	<p>We held focus groups with individuals considered 'hard to reach' in each of our regions. Each group contained 8-10 participants and lasted two hours. Participants covered three groups: urban customers with English as a Second Language, Future Generations and Non-Customers (predominantly from rural areas). These built on our previous deliberative workshops, whose voices could otherwise become 'lost within the crowd'.</p>	<p>Participants were asked what they expected of Cadent. The four draft outcomes for the business plan were shared with participants and they were asked for their views on these, what they wanted to see from Cadent and whether there were additional outcomes that Cadent should include.</p>	57	2.5
	Feb-19	ENA and Accent RIIO-2 stakeholder engagement (decarbonisation)	<p>A broad range of stakeholders from across the country, across different areas of the sector and representing a range of organisations were brought together by all GDNs to understand their views of how the gas networks should individually and collectively support the decarbonisation of heat through their RIIO-2 business planning. Most stakeholders preferred taking a broad definition of 'whole systems' and wanted future-proofed assets and decision-making with the longer-term end goal in mind. But they emphasised the need for urgency in putting the stepping stones in place to reach decarbonisation targets.</p>	<p>Stakeholders were asked what a whole energy system approach should look like, and what gas network RIIO-2 business plans should focus on in the context of decarbonising the gas system. The impact on CIVS, collaboration between gas networks and the funding of, and barriers to, decarbonisation were also discussed.</p>	37	1.5

Discovery	May-19	WWU regional community workshops	Wales & West Utilities (WWU) hosted a series of regional workshops to seek feedback from stakeholders on its current and future business activities. These deliberative workshops explored: stakeholder priorities, value for money, mains replacement and the theft of gas, future energy solutions and social obligations.	These deliberative workshops explored: stakeholder priorities, value for money, mains replacement and the theft of gas, future energy solutions and social obligations.	52	1.0
	May-19	RIO-2 employee engagement, May 2019	We engaged with 783 of our employees through a survey to test the latest RIO-2 business plan proposals to ensure that the plan was robust, fit for purpose and accurately represented what our customers want from us. Employees were asked for their views both as customers and as subject matter experts. Participants were asked for their priorities from their perspective as customers. Then, as subject matter experts, they were asked to rate, and provide their views, on different service offerings (Customer Contact, Emergency Response and Repair, Domestic Connections, Commercial Connections and Mains Replacement).	Employees were asked for their views both as customers and as subject matter experts. Participants were asked for their priorities from their perspective as customers. Then, as subject matter experts, they were asked to rate, and provide their views, on different service offerings (Customer Contact, Emergency Response and Repair, Domestic Connections, Commercial Connections and Mains Replacement).	783	1.0
Targeted	Feb-19	Cadent Customer Forum (February 2019) Safeguarding	The first round of customer forums was held at three locations (London, Manchester, Birmingham) involving 96 customers. The forums are designed to be ongoing conversations with customers, with engaged discussions around the role of Cadent within society. The first customer forum focused on safeguarding and supporting CIVS to inform these sections of the RIO-2 business plan. Within these themes we explored customer expectations and priorities.	Customers were asked what they expected from Cadent in relation to safeguarding, how Cadent should help CIVS. The forums also sought to explore customer priorities for safeguarding and the reasons for that prioritisation.	96	2.5

Targeted	Mar-19	Cadent Customer Forum (March 2019) Carbon Monoxide and Fuel Poverty	The second round of customer forums was held at four locations (Ipswich, London, Manchester, Birmingham) involving 110 customers. The forums are designed to be ongoing conversations with customers, with engaged discussions around the role of Cadent within society. The second customer forum focused on fuel poverty and carbon monoxide safety to inform these sections of the RIIO-2 business plan. Within these themes, we investigated customer expectations and appetite. Overall, customers did not automatically think that addressing fuel poverty and CO is Cadent's responsibility, nonetheless, the majority supported the highest level of Cadent investment.	Customers were asked how Cadent fitted into the picture of cause and responsibility with respect to CO and fuel poverty. They were encouraged to consider Cadent's responsibility for safeguarding and its responsibility as a private, regional monopoly. Participants were presented with four or five (costed / quantified) options for actions that Cadent could take to address CO / fuel poverty and voted and provided the reasons for their choice. This was followed by a group discussion where additional options could be suggested.	110	3.0
	Jun-19	CIVS, Phase 2	We commissioned Traverse to engage with 37 CIVS and professionals working with such customers to understand their needs and preferences to support our business planning process. The overarching key finding was that CIVS are individuals and, as such, have individual needs and preferences and should be approached on a need's basis.	The interviews sought to understand the needs and expectations of Cadent to safeguard CIVS and accommodate their circumstances. Topics covered included identification, the PSR, partnerships, alternative cooking and heating solutions during interruptions, safety in the home, tailored services, engagement and communication.	37	3.0

Business Options Testing	Jun-19	Cadent customer forum, round 4, Traverse	<p>We held our fourth customer forum in Ipswich, London, Birmingham and Manchester to get customers' views on their priorities on a range of issues. This cross section of customers discussed with us various options (some proposed by us, some suggested by them) in a deliberative style session. Key topics discussed included: customer service, replacing pipes, reinstatement, interruptions, fuel poverty, carbon monoxide, decarbonising energy and becoming carbon neutral.</p>	<p>Participants were asked questions about a range of topics. On customer service, we explored what "great" looks like. We also asked about timeliness and communication with respect to reinstatements. We also tried to understand the level and type of service customers want during an unplanned interruption, including views on provisions, length of time without gas, and timeslots for getting the gas turned back on. We also asked for views on our options for addressing fuel poverty and carbon monoxide.</p>	200	3.0
	Aug-19	Workshops with ESL and non-English speakers, Traverse	<p>We commissioned Traverse to hold three workshops with ESL and non-English speaking customers: 22 Polish-speaking participants with English as a second language and 9 Bengali speaking participants. During this session we asked customers to tell us what role they thought that we should play in relation to carbon monoxide safety, provisions during an interruption and responding to climate change. They agreed that communication was critical with respect to interruptions. For provisions, all agreed oil filled radiators were important, but there were interesting differences too: the Bengali group prioritised hot meal vouchers & kettles, both given low priority by the Polish group which favoured shower access & hot plates. They confirmed that they believed, we as other big businesses should be acting responsibly and seeking to reduce our carbon footprint. The specific intention of this session was to ascertain the views of a different (typically hard to reach) group of customers to check if their views were consistent with other customer segments.</p>	<p>Customers were asked about their priorities. We also sought to understand their views on our business options in relation to carbon monoxide, provisions during interruptions, and decarbonisation.</p>	31	2.5

Business Options Testing	Aug-19	Workshops with customers in fuel poverty, Traverse	<p>We commissioned Traverse to engage with 83 customers in fuel poverty at deliberative workshops in Wolverhampton and Peterborough to understand their views on options for our business plan in relation to a number of areas of relevance to customers in fuel poverty or vulnerable situations. The option with the highest delivery targets (option 3) was chosen for each of CO awareness & action, priority safety checks and fuel poor solutions (including income & energy advice). The specific intention of this session was to ascertain the views of a different (typically hard to reach) group of customers to check if their views were consistent with other customer segments.</p>	<p>Customers were asked about their priorities. We also sought to understand their views on our business options in relation to carbon monoxide, proactive safety checks, addressing fuel poverty, PSR awareness, the length of, and provisions during interruptions.</p>	85	2.5
	Aug-19	Domestic and business surveys, quantitative phase, Traverse	<p>We commissioned Traverse to conduct a survey of more than 2000 domestic customers and more than 500 business customers to understand preferences between the different business options under consideration across 14 different service areas. The options presented combined service provisions e.g. educate 50,000 customers most at risk of CO poisoning and a monetary impact on the customer's annual bill. Across both the domestic and business surveys, the highest weighted average scores, supporting the options with the highest target delivery levels, were achieved in areas relating to safety and protection of vulnerable customers: responding to carbon monoxide incidents, repairing and replacing faulty appliances, helping vulnerable customers without gas and carbon monoxide safety.</p>	<p>Domestic and business customers were asked their preferred options (with varying target delivery levels/ cost) for 14 commitments:</p> <ol style="list-style-type: none"> 1. Carbon Monoxide Safety 2. Responding to Carbon Monoxide incidents 3. Repairing and replacing faulty appliances 4. Helping vulnerable customers without gas 5. Helping all customers without gas 6. Getting customers back on gas 7. Carrying out safety checks 8. Minimising disruption from our works 9. Tackling Fuel Poverty 10. Awareness of Priority Services Register 11. Priority Services Register training 12. Becoming a Carbon neutral business 13. Communities not currently connected to gas 14. Keeping the energy flowing reliably and safely 	2,547	3.0

Acceptability Testing	Oct-19	Phase 4 - Business interviews and surveys	We commissioned Traverse to test the acceptability and affordability of Cadent's proposed plan amongst business customers. This consisted of an on-line / face to face survey of 504 business customers and in-depth qualitative telephone interviews with 45 business customers. This showed that the plan had achieved high levels of acceptability and affordability from a business customer perspective.	Business customers were asked about the acceptability and affordability of Cadent's overall plan. If they said that the plan was unacceptable, they were asked to explain their response. If they said that it was neither acceptable nor unacceptable, they were asked what they would like to see in order to find it acceptable. Business customers were also asked to rate the acceptability of the outcome areas (environment, quality experience and resilience). Then, having learnt about the outcome areas, customers were asked as "informed customers" to rate the overall acceptability and affordability of the plan.	549	2.0
	Oct-19	Acceptability testing - final survey report on domestic customers	We commissioned Traverse to test the acceptability and affordability of Cadent's proposed plan amongst domestic customers. This consisted of surveying 4,446 domestic customers through on-line and face to face methods. This showed that the plan had achieved high levels of acceptability and affordability amongst domestic customers, including those who are fuel poor.	Customers were asked about the acceptability and affordability of Cadent's overall plan. If they said that the plan was unacceptable, they were asked to explain their response. If they said that it was neither acceptable nor unacceptable, they were asked what they would like to see in order to find it acceptable. Customers were also asked to rate the acceptability of the outcome areas (environment, quality experience and resilience). Then, having learnt about the outcome areas, customers were asked as "informed customers" to rate the overall acceptability and affordability of the plan.	4,446	2.0
	Oct-19	Acceptability testing - focus groups with the general population	We commissioned Traverse to explore the acceptability of our plans and commitments in each of the three outcome areas (environment, quality experience and resilience) with 79 members of the public in regional focus groups. Participants were supportive of our plans for quality experience and resilience, but no consensus was reach on our environmental plans.	A group discussion was facilitated to discuss views on Cadent's plans in each of the three outcome areas and participants were also asked to complete a survey to rank levels of acceptability and affordability.	79	2.5

Acceptability Testing	Oct-19	Acceptability testing - customer forum	We commissioned Traverse to explore the acceptability of our plans and commitments in each of the three outcome areas (environment, quality experience and resilience) with 109 customers who had attended previous customer forums. Overall, participants found our plans to be both acceptable and affordable.	A group discussion was facilitated to discuss views on Cadent's plans in each of the three outcome areas and participants were also asked to complete a survey to rank levels of acceptability and affordability.	109	3.0
	Oct-19	Acceptability testing - focus groups with future customers	We commissioned Traverse to explore the acceptability of our plans and commitments in each of the three outcome areas (environment, quality experience and resilience) with 20 "future customers" (16-18 year olds) in 2 focus groups. Participants were supportive of our plans for the environment and resilience but questioned whether helping vulnerable customers was part our remit.	A group discussion was facilitated to discuss views on Cadent's plans in each of the three outcome areas and participants were also asked to complete a survey to rank levels of acceptability and affordability.	20	3.0
	Oct-19	Acceptability testing - interviews with CIVs	We commissioned Traverse to explore the acceptability of our plans and commitments in each of the three outcome areas (environment, quality experience and resilience) by interviewing 20 CIVs. Overall, our plans were supported, and all found the plans affordable.	Throughout the interviews the CIVs were explained the elements of the plan, asked to comment on whether they found each outcome acceptable, which particular elements were important to them, and whether they had any additional comments. They were also asked whether the new business plan was affordable.	20	3.0
	Oct-19	Acceptability testing - fuel poor focus groups	We commissioned Traverse to explore the acceptability of our plans and commitments in each of the three outcome areas (environment, quality experience and resilience) with 35 customers in fuel poverty in regional focus groups. Overall, participants were supportive of our plans in all three areas.	A group discussion was facilitated to discuss views on Cadent's plans in each of the three outcome areas and participants were also asked to complete a survey to rank levels of acceptability and affordability.	35	3.0

Acceptability Testing	Oct-19	Verve business plan consultation	We commissioned Verve to gather views on our plans to reduce our carbon footprint from 25 customers. We did this through an online forum with customers and stakeholders to discuss the key components that we shared on our EAP. This included our intentions to support our employees to make a positive difference to tackling climate change.	Participants were asked about their awareness of cadent, discussed the three outcome areas (environment, quality experience and resilience), discussed the bill impact breakdown (both at present and as a result of the plan), risks and uncertainties and innovation funding.	25	2.5
	Nov-19	Feedback from Policy Connect on our CO plan	We asked Policy Connect to provide feedback on our proposals for CO.	We asked Policy Connect about each element of our CO plan, whether they supported them, and what further action we should consider.	1	3.0
	Nov-19	Verve acceptability testing stakeholder interviews	We asked Verve to interview a small number of expert stakeholders and ask for feedback on our plan.	We shared a summary of our October plan with stakeholders and asked them for feedback.	5	2.5

1.4. Engagement feedback and insights

Importance of CO risk mitigation

Our engagement with customers and stakeholders, as well as qualitative and quantitative research, clearly demonstrates that our activities around CO risk, and preventing gas disruptions for vulnerable customers, are highly valuable and are expected by our customers.

Participants at our deliberative workshops, focus groups, and our domestic survey were consistently supportive of us raising awareness of CO and providing CO alarms to customers, particularly those in vulnerable situations. Participants in our focus groups were concerned that customer awareness of the full dangers of CO is low. Participants across all these events highlighted that the safety of employees and the public is their highest or joint-highest priority.

Our employees highlighted the importance of CO awareness, ranking this as the fifth-highest priority (4.43 out of 5). They further commented that Cadent should offer free CO detectors with every new visit to a property, to show customers that we care about their safety.

CO awareness varied a lot among the 31 participants at our ESL and non-English speakers' workshop. There was a strong view that Cadent should do more to raise awareness and make CO alarms mandatory or install and test them for everyone, even if that means bills would be raised.

Stakeholders at our regional workshop in Manchester gave very positive feedback on their experiences working with Cadent to fit CO alarms. One stakeholder at the Energy Networks Association (ENA) stakeholder workshop said that some of the work that has been undertaken on CO awareness has been very important and that such work should continue.

The vulnerability interview series jointly conducted with Traverse revealed that CIVS may be more at risk from the dangers of CO than the general public are, given that they may already be struggling with day-to-day life, may forget to service appliances, may have insufficient funds to service and maintain appliances, or have insufficient mobility. Since accessible equipment is available, alarms should be provided according to the sensory needs of the individual. Awareness raising should also be made more accessible, for example, to the deaf community.

At the Wales and West Utilities stakeholder workshops in May 2019, with 52 participants, there was support for the idea of visually impaired people being given a CO alarm as a priority. There was also praise for the idea of vibrating CO alarms being given to the hard of hearing.

Positive feedback on CO programmes

Cadent has a number of initiatives to promote CO awareness. One such initiative is that Cadent sponsors memory diaries (which include information on CO prevention), produced by Derbyshire Fire and Rescue and distributed by Alzheimer's Society. Kay Simcox of Derbyshire Fire and Rescue Service said:

"We are delighted to be working with Cadent for the second year on this fantastic project. Their sponsorship and ongoing support have made it possible for us to continue working with local charities that work with vulnerable members of our community, helping to make sure they stay safe from the risk of fire and CO poisoning."

Cadent also promotes CO awareness with children through its Safety Seymour character. 496 responses were received from parents surveyed in 2018 about the effectiveness of Cadent's Safety Seymour activity pack. The response was overwhelmingly positive with the consensus being that it was both informative and fun. When asked if the programme had encouraged them to take further safety precautions at home, approximately 75% said "yes", with many of the remainder stating that they already had the necessary precautions in place.

Responsibilities of Cadent and other parties

The customer forum on CO revealed that customers do not automatically think that addressing CO is Cadent's responsibility and instead pointed to the Government and individuals as responsible parties. However, some participants thought Cadent should take action and redirect profits towards helping people within their network.

However, when considering what actions Cadent should take in this area, across all locations, the majority of participants chose the most extensive and expensive investment option. This was justified by the relatively low cost and the seriousness of the issue at hand. Most participants stated that they wanted larger-scale action and would be willing to pay more.

It was noted that Cadent, as a regional monopoly, was uniquely placed to address CO poisoning as everyone at risk in a given region will be a Cadent customer. There was agreement that customers on the Priority Services Register (PSR) and those with low income should be targeted for alarm distribution. However, they also thought that non-PSR customers may be the hardest to reach and so want Cadent to do more and provide more free CO alarms. Some also thought that the Government should require CO detectors in all homes.

Suggestions for improvement

Our customers and stakeholders provided several recommendations regarding how we should improve our activities aimed at mitigating CO risk. Stakeholders participating in our regional workshops suggested expanding our work with partner agencies to fit CO alarms and wanted us to ensure we offer these to customers on the PSR when we visit them.

Participants in our focus groups with hard-to-reach customers suggested that we could offer annual CO risk inspections and requested more information on how they could be sure that the gas pipes and appliances in their homes are safe.

Ideas for promoting alarms to vulnerable groups included working with trusted networks such as care providers and support workers, partnering with community organisations or large-scale public services such as councils and fire services. It was noted that any explanations should be clear and done in such a way that does not create fear.

To promote information on CO and receiving an alarm in general, customers suggested working with the fire service, council or NHS, approaching family members, talking to customers while in their homes, leaflets, post and emails, social media, working with community groups and promoting through schools.

Table 5 Summary of insights

Feedback/insight	How we have addressed this
Customers indicated through various forums that they believed all homes should be required to have a CO alarm and our employees supported the idea of ensuring all new visits to a property should include the offer of a CO alarm to those who don't own one.	Early engagement revealed that customers unanimously agreed that CO alarms should be provided to all customers. Therefore, our proposals were very ambitious from the start. Following customer testing of costed options this trend consistently remained amongst customers and has led us to our commitment to distribute 3 million alarms over RIIO-2.
Customers indicated that alarms should be provided according to the sensory needs of the individuals e.g. vibrating CO alarms being given to the hard of hearing.	Our holistic delivery model joins together our four core focus areas (CO awareness, fuel poverty, raising awareness of the PSR and going beyond to ensure we never leave a customer vulnerable without gas), with an integrated delivery approach involving Cadent employees and partners working across multiple areas. This allows us to focus our efforts on areas and customers with the greatest risk, noting that in many cases there is significant crossover between these areas. Specifically, we will continue to explore the innovative options for CO alarms to ensure every customer is provided one which caters to their needs and keeps them safe. Smart bespoke alarms will make up a proportion of our 3 million alarms.

<p>Customers and stakeholders highlighted the importance of working with trusted partners and charities such as care providers, fire services, and NHS trusts to ensure we can reach the most vulnerable and use existing relationships to ensure customers feel at ease.</p>	<p>Our CO awareness proposals in RIIO-2 is very much underpinned by developing and working with effective and trusted partnerships across our regions e.g, we will build on the relationships we have built with NHS midwives who provide CO information and alarms on our behalf. We commit to partner with all fire and rescue service, NHS trusts and ambulance services across our footprint. We will also develop more than 80 strategic partnerships with charities and industry experts to identify the needs of our customer. See Appendix '07.03.09 Identifying your needs and joining up support services' for more information.</p>
<p>Our education initiatives in RIIO-1 (e.g. Safety Seymour) has received significant praise from customers and industry stakeholders as being very informative and fun.</p>	<p>We will continue to deliver education programmes throughout RIIO-2 and build on the success of Safety Seymour by developing similar programmes for children in later stages of education to ensure learning is reinforced. Through RIIO-2 we will directly educate 200,000 people.</p>
<p>Some customers thought that addressing CO wasn't our responsibility but something government and individuals should be responsible for. However, others believed our position as a regional monopoly, made us uniquely placed to address CO poisoning as everyone at risk in our region will be our long-term customer.</p>	<p>Although some customers did not automatically believe CO awareness was our responsibility the majority of customers and stakeholders believe we are uniquely placed to tackle this societal issue. Firstly, we have a direct long-term relationship with all homes on our network, whilst other organisations such as supplier don't. Secondly, we are the biggest provider of heat in England and therefore we have an obligation to lead.</p>
<p>Hard to reach customers suggested that we offer annual CO risk inspections and more information to ensure gas pipes and appliances in their homes are safe.</p>	<p>As part of our RIIO-2 business plan proposals we explored the delivery of annual proactive safety checks for CIVS. However, through customer testing a number of safety and privacy concerns were raised leading to us dropping these proposals. We will, however, continue to explore this area in RIIO-2 including how we could mitigate some of these concerns. See Appendix 07.03.12 'Going beyond to never leave a customer vulnerable without gas' for more information.</p>
<p>Findings from vulnerability interviews with professionals suggested that CIVS may be more at risk of the dangers of CO given that they may be struggling with day to day life, may forget to service appliances, may have insufficient funds to service and maintain appliances, or have insufficient mobility.</p>	<p>Our vulnerability strategy brings together all the work we do in this area, including tackling fuel poverty, raising awareness of the PSR and CO awareness. This alignment allows us to target those most in need and tailor services appropriately. As part of our CO offering for RIIO-2 we are exploring offering appliance repair or replacement following a condemnation of an appliance after CO has been detected for CIVS. This is something we have already trialled in RIIO-1 and seen successful results for CIVS.</p>
<p>Most customers at regional forums chose the most extensive and expensive CO options for RIIO-2. Most participants stated that they wanted larger-scale action and would be willing to pay more.</p>	<p>We are delighted that customers see real value in our CO awareness work and keeping customers and the public safe. When developing our commitments for CO in RIIO-2, we will be looking to balance customer benefit, deliverability and value for money to ensure we stretch ourselves but don't over commit for customers.</p>

2. Assessing the measurement options



2.1. How is it currently measured?

In RIIO-1, we committed to delivering 2.1 million service contacts through responding to CO incidents and issuing 105,000 CO alarms to those deemed especially vulnerable, in conjunction with an awareness survey to assess the impacts of the contacts.

The measure is reputational only.

How do current measures deliver against customer outcome/priority?

The current RIIO-1 measure was bespoke to Cadent and provided the platform for us to be pioneering and innovative in our approach to raising awareness of the dangers of CO and sharing across the industry.

Strengths – Customers living in vulnerable situations have benefited from receiving an alarm and we have formed strong partnerships with the Fire and Rescue Service. The level of awareness of the dangers of CO has increased via our survey but there is still work to do.

Weaknesses – There is currently a narrow scope for issuing alarms to customers. The scale of this activity is not as ambitious as it could be. The current approach targets only a narrow set of customers. In RIIO-2, we want to broaden the reach to customers across our regions, targeting CO hotspots. CO is a risk to anyone; all customers are at risk, so we need to reach everyone.

We currently do not measure and/or carry out the following activities:

- Number of partnerships (do not measure externally).
- Locate and isolate (currently do not carry out this work).
- Repair or replace unsafe appliances (currently do not carry out this work).

2.2. Assessing good practice

Gas networks

Gas Distribution Networks (GDNs) collaborate to share best practice regarding raising the awareness of the dangers of CO:

- The GDN CO working group has been expanded to include other industry partners, such as Energy UK, and suppliers such as Npower and Gas Network of Ireland, to ensure that we are communicating to all across the industry.
- The National CO safety competition for children aged 5-11 has received ten times more entries from young people since it was expanded and relaunched three years ago.
- Following the incredible success of Safety Seymour across our footprint, we have passed it to other GDNs and the success has continued across their areas with over 14,000 children reached.
- Following the success of Northern Gas Networks game 'iCOP', in protecting festival goers from the dangers of CO, iFest was developed by all the GDNs.
 - iFest is an entertaining and innovative game which warns of the specific CO dangers present at festivals and lets visitors search through tips and learn about the risks of CO poisoning and how to stay safe.
- GDNs sponsor the All-Party-Parliamentary Carbon Monoxide Group (APPCOG), which exists to raise awareness within Parliament of the threat of CO poisoning, to inform policy making and help improve safety measures across the UK.

- Our Fire and Rescue partnerships are the first of their kind in the industry and allow us to reach hard-to-reach customers using Cadent leaflets and issuing of alarms.

Fire and Rescue Services

Fire and Rescue services raise awareness of the dangers associated with CO and share important information through their websites. Examples include:

- Humberside has a detailed graphic showing is the best place to put a CO alarm in your property.
- North Wales offers a similar leaflet that shows you how to choose a CO alarm and where to put it in your property.
- East Sussex includes a leaflet on how to stay safe from CO on boats. It also has a survey on its CO webpage to allow users to rate the usefulness of the page.

Water companies

Water companies typically run education programmes around the use of water, with a view to reducing per capita levels of consumption. This has some read across to gas network CO education programmes:

- Severn Trent Water has included a financial incentive in its business plan, based on the number of people who have committed to behavioural change as a result of its ‘using water wisely’ education programme.
- Thames Water has included a reputational incentive in its business plan around the number of proactive customer engagement activities it completes, including smarter home visits, smarter business visits, Local Authority and housing association water efficiency visits and school water audits.

Summary

External best practice informs us that collaboration and sharing learning is the key to raising awareness of the dangers of CO through education partnerships that allow us to reach wider demographics using existing interactions and various channels that can be used to increase awareness and education. This learning, along with our insights from engagement, has helped define objectives for developing our proposals.

2.3. What options have we considered for RIIO-2?

Defining objectives

Reflecting on the insights we have received from our customers and stakeholders and best practice across the industry, we have defined the objectives the outputs on CO awareness should deliver in RIIO-2.

Table 6 Defining the objectives

Objective	Business insights	Customer and stakeholder insight/feedback	Best practice	Strategy / policy
Reduce the risk of harm by CO as a result of gas conveyed through our network.	On a daily basis, our front-line emergency engineers are seeing the negative impacts CO can have.	Customers and stakeholders recognise the dangers that CO presents in the home and they want Cadent to educate and protect against the dangers.	Fire Safety awareness is paramount in society. The Fire Service has a big drive on smoke alarm installation and use. Similar principles apply to CO.	A drive from the Parliamentary Working group to eradicate the dangers of CO across all areas of society.

Objective	Business insights	Customer and stakeholder insight/feedback	Best practice	Strategy / policy
Forming strategic partnerships with organisations that reach our targeted demographics to keep customers safe and warm in their homes.	Partnership working has proved extremely successful in RIIO-1 and allows Cadent to target a broad range of hard-to-reach customers in CO hotspots for education and issuing alarms.	Customers recognise the importance of partnership working in order to allow Cadent to access harder-to-reach groups.	Using existing organisations and partners that are already established ensures that effort is not wasted.	Working in partnership with other GDN's, utilities and interested parties through the GDN best practice group, allows a louder voice to be heard by policy makers.
Going the extra mile to safeguard CIVS.	Through established partnerships we are able to reach customers that we would never reach that may not even be connected to our network. Also allows promotion of other business activities e.g. LCV and PSR.	Stakeholders recognise the value of Cadent's work on CO and want to see networks adopt innovative new approaches in order to eradicate the dangers E.g. targeting dangerous appliances, repairing / replacing where appropriate.		Ofgem/Industry bodies want to see networks go above and beyond the minimum level of service and deliver services with a strong social return on investment in order to protect the most vulnerable.

Table 7 Options we considered

Option 1: Continue to satisfy Ofgem requirements (deliver our existing safeguarding services)	
<ul style="list-style-type: none"> • Issuing alarms to CIVS only – Via emergency visits, including the CO awareness survey. • Delivery CO awareness contacts via a range of methods – Safety Seymour CO awareness programme in schools, partnerships with Fire and Rescue Services. 	
Assessing the merits and drawbacks	
Pros	Cons
<ul style="list-style-type: none"> • Continues to raise awareness of the dangers of CO. • Minimal cost to the customer in maintaining the existing approach. • Makes homes and families safer from CO. 	<ul style="list-style-type: none"> • Limited to only supporting those who are in vulnerable situations. • Approach would not deliver a step-change in performance. • Would not leverage the full potential of partnership working. • Alarms only being issued to those who are most vulnerable therefore there is a risk that not every home will have a CO alarm.
Potential unintended consequences	
<ul style="list-style-type: none"> • The understanding of CO, its symptoms and potential impacts, does not reach a wide enough audience and therefore prevention and detection rates do not improve. • The gas industry would not be seen as leaders in this area as the approach lacks ambition for RIIO-2 and beyond. • Customers may be unsure of what action to take at the end of an alarm battery's life. 	

Option 2: Locating the source of CO, and, where possible, isolating the appliance	
<ul style="list-style-type: none"> All elements of Option 1. Locating and isolating the appliance emitting CO – Service would target customers who are most vulnerable. At present, the entire gas supply to the home is isolated when CO is detected. For this approach, only the appliance emitting CO would be isolated, leaving the customer free to safely use any other gas appliance in the home. 	
Assessing the merits and drawbacks	
Pros	Cons
<ul style="list-style-type: none"> The customer is immediately safe from the dangers of CO in their household . 	<ul style="list-style-type: none"> Deliverability risk as we currently do not provide this service. (Not necessarily a con) Additional training and equipment would be required for all front-line engineers in order to deliver this service (at a cost to the customer).
Potential unintended consequences	
<ul style="list-style-type: none"> Risk of re-occurrences of CO from other household appliances that have not been isolated as part of this process (as the gas supply is still maintained at the house). If referral channels were to breakdown, the customer could be left unable to use an isolated appliance for a period of time. 	

Option 3: Repairing or replacing CO emitting appliances	
<ul style="list-style-type: none"> All elements of Option 1. Repair or replace appliances emitting CO, through partnerships with industry experts – If there is an appliance that is not working or beyond economical repair, we would replace it, like-for-like through our commercial partnerships. For consistency, fairness and deliverability, customers will be assessed against a common set of criteria that we will define and keep relevant. This service would target customers who are most vulnerable including those who are unable to afford to repair or replace their appliances. 	
Assessing the merits and drawbacks	
Pros	Cons
<ul style="list-style-type: none"> This option delivers a firmly customer focussed outcome, sensitive to vulnerability issues. Stops customers attempting to ‘self-reconnect’ appliances due to affordability of a repair. Where CO dangers have been found, the consequences of these actions can be very severe for customers, and for the neighbours of customers. 	<ul style="list-style-type: none"> Would require significant coordination of partnerships on a large scale to ensure the service is available for all CIVS. Still limited to those living in vulnerable situations.
Potential unintended consequences	
<ul style="list-style-type: none"> Regulated funds used for forming partnerships with experts carries the risk of impacting the competitive market. There need to be clear guidelines associated with these services and ensure it does not drive the wrong behaviour from companies and consumers. Could create incentives for customers to damage appliances themselves to receive a replacement from Cadent, creating a safety risk for them and a cost risk to customer bills. 	

Option 4: Providing CO alarms to all customers who need one	
<ul style="list-style-type: none"> All elements of Option 1. Gas engineers would provide a CO alarm to any customer who does not already have one and we would significantly increase our partnerships with the Fire & Rescue Service, NHS trusts and Ambulances services to increase distribution of alarms – This service would target all customers, not just those who are most vulnerable. The Cadent engineer and our partners would offer to install and explain how the alarm works. 	
Assessing the merits and drawbacks	
Pros	Cons
<ul style="list-style-type: none"> This option would gradually increase alarm ownership and help to move towards eradicating the dangers of CO. The alarm would be issued by an engineer, so it could be guaranteed that it is being used (and not left in a drawer). 	<ul style="list-style-type: none"> Costs to fund this approach would be shared across all customers (even those who already own an alarm).
Potential unintended consequences	
<ul style="list-style-type: none"> This option would result in Cadent becoming the UK's biggest supplier of CO alarms, and therefore may risk to supply issues if CO alarm providers are not able to meet the demand. 	

Option 5: All options combined	
<ul style="list-style-type: none"> Continuing our existing RIIO-1 safeguarding options – issuing alarms to the most vulnerable, CO awareness survey, Safety Seymour and Fire and Rescue Partnerships. Locating and isolating the appliance emitting CO for the most vulnerable. Repairing and/or replacing unsafe appliances for the most vulnerable. Providing alarms to all customers on emergency visits who do not already have one. Forming partnerships with the Ambulance Service and NHS Trusts. 	
Assessing the merits and drawbacks	
Pros	Cons
<ul style="list-style-type: none"> A comprehensive service for all aspects. This option would gradually increase alarm ownership and help to move towards eradicating the dangers of CO. Alarms would be issued to all customers, not just those who are most vulnerable. Aligns with our objective of wanting to ensure that no-one is harmed by CO as a result of gas conveyed through our network. Leaves customers in a more positive position. Greatest impact for all types of customers. 	<ul style="list-style-type: none"> This option would be the most expensive and therefore come at the greatest additional cost to the customer.
Potential unintended consequences	
<ul style="list-style-type: none"> This option would be very ambitious for Cadent and require a significant increase in focus on CO across the business, therefore creating a risk that we lose focus on our core services. 	

2.4. Why are these the options

We have considered a range of options in line with our strategy, from rolling over our existing RIIO-1 commitment that primarily focuses on serving the most vulnerable, through to delivering a full package of CO safety measures for all customers.

Options 2 to 4 build on the existing offering, which is Option 1. They look to provide services on top of what we already offer, based on customer needs. Any proposed elements of options that are new have been piloted within our networks, so we have the base data to show that there is customer demand for the services.

Combining this with the findings from our customer and stakeholder engagement has allowed us to build what we believe is a robust set of options.

Table 8 Options appraisal against objectives

	Option 1: Continue to satisfy Ofgem requirements (deliver our existing safeguarding service)	Option 2: Option 1 plus locating the source of CO and isolating the appliance	Option 3: Option 1 and 2 plus either repairing or replacing the relevant appliance	Option 4: Option 1 plus providing alarms to all customers	Option 5: All options combined
Objective 1: Reduce the risk of harm by CO as a result of gas conveyed through our network					
Objective 2: Forming strategic partnerships with organisations that reach our targeted demographics to keep customers safe in warm in their homes					
Objective 3: Going the extra mile to safeguard CIVS					

No delivery	Weak delivery	Some delivery	Delivery	Strong delivery
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2.5. Customer and stakeholder preference

Based on business insights and findings from our qualitative engagement, the preference is Option 5. This best aligns with the wants and needs of customers and our vulnerability strategy. This option also gained the most support from customers at our customer forums.

In summary, based on customer and stakeholder insights, our key areas of focus will be:

- Continuing to raise awareness of the dangers of CO via a number of innovative methods (e.g. education in schools, partnership working and doorstep engagement).
- Continuing to issue CO alarms, but at a greater scale utilising a network of trusted partners targeting all customers including those who are most vulnerable.
- Supporting customers by only isolating the appliance emitting CO rather than switching off the full gas supply to the property. This allows the customer to continue to use their gas supply for any other appliances in the house that are not emitting CO.
- Reducing the risk of CO poisoning via the repair and/or replacement of appliances, prioritising CIVS.

3. Assessing performance levels



3.1. How we performed in RIIO-1

During the early years of RIIO-1 we established the CO awareness survey and began to form partnerships with the Fire and Rescue Service, working collaboratively to raise the awareness of CO, reaching a broader range of customers. Over the RIIO-1 period we have surveyed over 49,000 customers. Based on our CO awareness survey results, on average our customers have demonstrated a 40% increase in their awareness of the dangers of CO. We are forecast to issue over 155,000 CO alarms to the most vulnerable via our emergency visits (we carry out c. 400,000 emergency visits a year across our networks), education and through partnership working. This is above our commitment to deliver 105,000 CO alarms with no additional funding used.

In the early to mid-years of RIIO-1 we developed our innovative education programme, primarily targeting children via the Safety Seymour interactive classroom initiative. Safety Seymour went live in 2016 and we plan to have educated over 44,000 children by the end of RIIO-1. We are keen to see how much of the messaging the child retains through their school years. To demonstrate the consolidation of their learning we are trialling a new project 'CO Crew' aimed at children in their final year of primary school to test and further enhance their knowledge of CO as they move into secondary education. Before the end of 2019/20, we hope to have completed 25 CO Crew classes, educating 750 children as part of the trial.

Additional initiatives in 2018/19

Fun Kids Radio

12 audio features based on the adventures of Safety Seymour were broadcast on Fun Kids Radio. The aim of the series was to introduce children to CO and to promote each house having a CO alarm. Since the launch in February, there have been 80 broadcasts and 425,000 listeners who have heard the series to date.

Billboard poster campaign

To broaden our reach to customers and the public on the signs and symptoms of CO poisoning and the importance of owning a CO alarm, we used CO hot spot reports to identify key areas that would most benefit from an awareness advertising campaign. Following adverts in magazines, to broaden the reach we had 4 billboard posters up in hot spot areas across our networks that have high volumes of passing traffic. The locations were:

Table 9 Billboard locations

Location	Passing cars per week
Tinsley Roundabout, Sheffield	350,000
Imperial Road, Fulham	105,000
Chancellor Lane, Manchester	462,000
Kingstanding Road, Birmingham	350,000

For the 12-week period the four billboard posters cost us £6,720.

Measures of success from the campaign:

- Total number of people that saw the boards: 14.5 million.
- Website traffic to our Cadent CO awareness webpage increased by 300%.

Other GDNs:

Northern Gas Networks:

- Delivered around 7,500 doorstep awareness surveys.
- Continued to offer formal training related to CO to diverse and difficult to reach customer groups through the delivery of sessions at Bradford University and a Somalian centre in Bradford.

Wales and West Utilities:

- Issued more than 4,830 CO alarms to CIVS.
- Developed and piloted CO safety awareness for older and BAME groups.

RIIO-1 performance summary:

So far, we have delivered good performance in the area of CO awareness during RIIO-1. Alarms have been issued to those who are most vulnerable via our emergency workforce and partnerships which include the Fire and Rescue Service. Awareness levels have increased as a result of this and our education work. Our Safety Seymour school programme is a key example of where we have innovated to target at an at-risk group. This programme has been successfully shared with, and rolled out by, other GDNs. Our ambition is to ensure that no one is harmed by CO as a result of gas conveyed in our network, and our work to achieve this will continue into RIIO-2 and beyond.

3.2. What performance levels have we considered for RIIO-2

We are targeting three areas to raise the awareness of the dangers of CO and support those who are most at risk from potential exposure to CO.

Carbon monoxide safety

Table 10 CO safety target range and cost to achieve

	Low	Medium	High
Target	<ul style="list-style-type: none"> • Educate 50,000 of those most at risk via our education package over RIIO-2 • Issue 200,000 CO alarms per year • Partner with every fire and rescue service and 40% of NHS Trusts and Ambulance Services 	<ul style="list-style-type: none"> • Educate 100,000 of those most at risk via our education package over RIIO-2 • Issue 400,000 CO alarms per year • Partner with every fire and rescue service and 60% of NHS Trusts and Ambulance Services 	<ul style="list-style-type: none"> • Educate 200,000 of those most at risk via our education package over RIIO-2 • Issue 600,000 CO alarms per year • Partner with every fire and rescue service and all NHS Trusts and Ambulance Services
Cost to achieve (RIIO-2 period)	£8,400,000	£16,590,000	£25,330,000
Cost assumptions/ calculation	<ul style="list-style-type: none"> • Education: £10 per person educated <ul style="list-style-type: none"> ○ Day rate for Safety Seymour= £240/30 children = £8 ○ Resources: £60 resource box/30 children = £2 • CO alarms: £7.64 per alarm • Partnerships for RIIO-2 period: <ul style="list-style-type: none"> ○ 100% F&RS - £160,000 ○ 100% NHS and Ambulance service - £250,000 		
Annual bill impact (average Cadent customer)	£0.13	£0.25	£0.39

Locating and isolating appliances emitting CO

Table 11 Locating and isolating appliance emitting CO (targets and costs used in July BOT)

	Low	Medium	High
Target	Isolate the appliance that produces CO for 15,000 customers per year	Isolate the appliance that produces CO for 22,500 customers per year	Isolate the appliance that produces CO for 30,000 customers per year
Cost to achieve (RIIO2 period)	£2,250,000	£3,375,000	£4,500,000
Cost assumptions/calculation	Additional £30 per job to deliver this service (Taken from customer forum info)	Additional £30 per job to deliver this service (Taken from customer forum info)	Additional £30 per job to deliver this service (Taken from customer forum info)
Annual bill impact (average Cadent customer)	£0.03	£0.05	£0.07

Table 12 Updated costs and targets for locate and isolate post BOT

	Low	Medium	High
Target	Isolate the appliance that produces CO for 10,000 customers per year	Isolate the appliance that produces CO for 15,500 customers per year	Isolate the appliance that produces CO for 22,500 customers per year
Cost to achieve (RIIO-2 period)	£3,500,000	£4,900,000	£6,675,000
Cost assumptions/calculation	1 hour (additional to initial call) on each job - £50. £180,000 per year training. Literature £100,000 (one off)	1 hour (additional to initial call) on each job - £50. £180,000 per year training. Literature £100,000 (one off)	1 hour (additional to initial call) on each job - £50. £180,000 per year training. Literature £150,000 (one-off)
Annual bill impact (average Cadent customer)	£0.05	£0.07	£0.10

Repairing and replacing faulty appliances

Table 13 Repairing and replacing faulty appliances

	Low	Medium	High
Target	<ul style="list-style-type: none"> 600 faulty appliances repaired per year 200 faulty appliances replaced per year 	<ul style="list-style-type: none"> 1,200 faulty appliances repaired per year 600 faulty appliances replaced per year 	<ul style="list-style-type: none"> 1,800 faulty appliances repaired per year 1,200 faulty appliances replaced per year
Cost to achieve (RIIO-2 period)	£2,613,160	£5,329,610	£8,804,529
Cost assumptions/calculation	Average unit cost of intervention (service, repair or replace): £525.79 (breakdown below*) Additional time cost per intervention (Hourly cost x time taken): £70 x 0.25 = £17.50		

	Additional training cost (cost of training per engineer x no. of engineers trained): £125 x 1200 = £30,000 p.a.		
	Literature cost: £58,000 p.a.		
Annual bill impact (average Cadent customer)	£0.03	£0.07	£0.13

Table 14 Average unit cost of intervention (service, repair or replace)

Activity	Appliance	Unit cost	Likelihood of activity required	Appliance proportion	Combined percentage	Expected cost per repair/replacement
Replacement	Boiler	£1,750	30%	60%	18.0%	£315.00
	Fire	£250		30%	9.0%	£22.50
	Hob	£150		5%	1.5%	£2.25
	Cooker	£400		5%	1.5%	£6.00
Repair	Boiler	£300	45%	80%	36.0%	£108.00
	Fire	£0		N/A	N/A	N/A
	Hob	£0		N/A	N/A	N/A
	Cooker	£200		20%	9.0%	£18.00
Service	Boiler	£82	70%	60%	42.00%	£34.44
	Fire	£70		30%	21.00%	£14.70
	Hob	£60		5%	3.50%	£2.10
	Cooker	£80		5%	3.50%	£2.80
					Average unit cost of an intervention	£525.79

These ranges have been set based on customer and stakeholder feedback together with insights from our CO heat maps and existing partnerships and trials working with the industry to keep customers safe from the dangers of CO. Ultimately there is overwhelming support from across our customer and stakeholder community to continue our work to keep customers and the public safe from the dangers of CO, and even to increase the scale of what we do to reach a broader range of customers.

The current RIIO-1 measures for CO are reasonably narrow but have provided scope to innovate for those who are most vulnerable. Increasing the level of our ambition in RIIO-2 will allow us to ensure those who are most vulnerable continue to be best served while also reaching a wider audience.

4. Customer testing



We have tested our commitments in a variety of ways to ensure we have both quantitative and qualitative responses across a broad segmentation of customers and stakeholders. We have tested the output measures that we are proposing and gathered feedback where options exist. This phase was called business options testing. Alongside customer testing, we have targeted specific groups such as hard-to-reach, seldom heard, future generations, those in fuel poverty and businesses such as micro-businesses. We especially wanted to understand if had heard correctly what our customers and stakeholders wanted and needed from us.

During options testing, we shared the bill impacts to ensure our customers and stakeholders were fully informed before making choices.

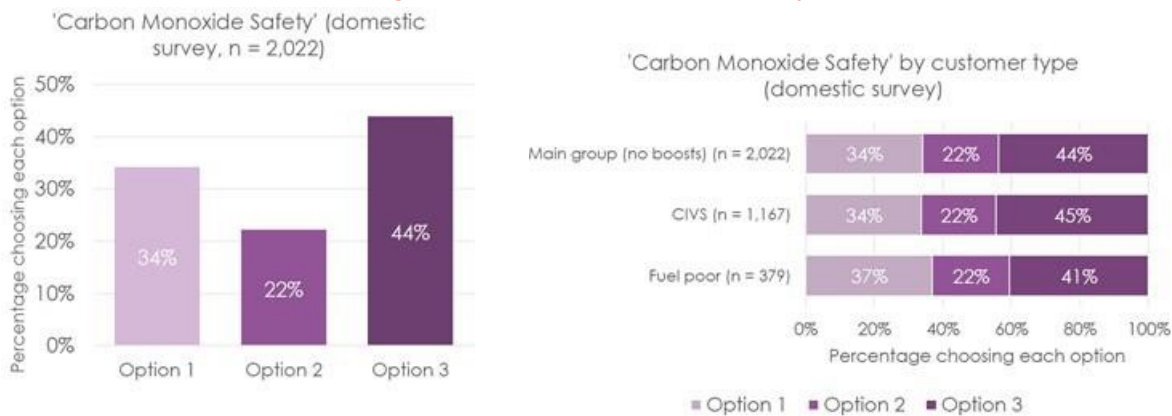
Once we had gathered all the feedback from the options testing phase, we conducted acceptability testing to test our plan in readiness for our final plan submission in December.

4.1. Business options testing (BOT) and Triangulation

Carbon monoxide safety

During BOT, we asked customers about CO safety. The favoured option in the July 2019 domestic BOT survey had the highest delivery targets (Option 3); to educate 200,000 of those most at risk, issue 600,000 CO alarms per year, partner with every fire and rescue service and all NHS Trusts, with 44% of the votes. The option with the lowest delivery targets (Option 1) received 34% of the votes and the mid-range Option 2 received 22% of the votes. CIVS and fuel poor customers also voted for the Option with the highest delivery targets with 45% and 41% of the votes respectively. Option 3 was also favoured by small business customers, with 47% voting for Option 3.

Figure 5 CO results from BOT survey



Preference analysis shows that those who supported Option 3 had the greatest strength of preference at 8.37 out of 10 (the higher the number the stronger the strength of preference). Option 1 received the lowest strength of preference at 6.58 out of 10.

Triangulation

Customers and stakeholders across all our quantitative and qualitative research have been consistently supportive of Cadent raising awareness of the dangers of CO and providing alarms to customers, particularly those in vulnerable situations.

Customers have reinforced their support for our ambitions around CO safety commitments in RIIO-2 by voting for the commitment with the highest delivery targets when cost options were presented to them during BOT (44% of customers surveyed wanted to see us commit to high delivery targets).

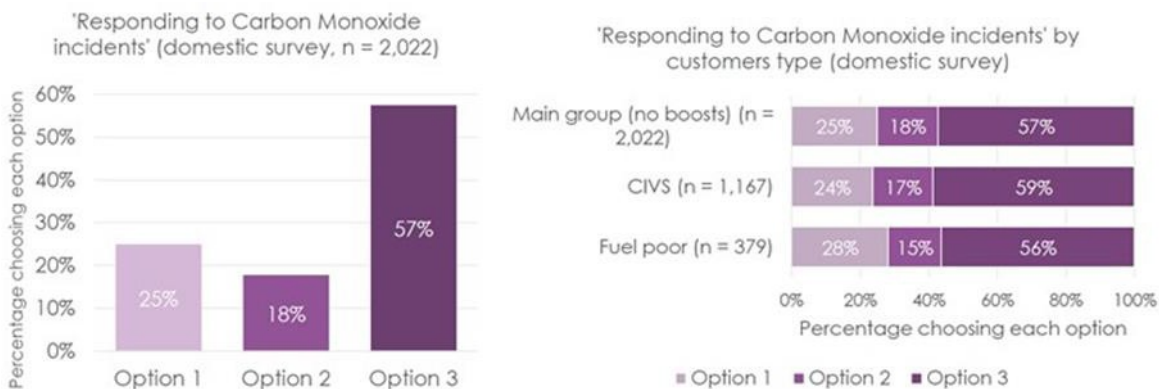
Ultimately there is overwhelming support from across our customer and stakeholder community to continue our work to keep customers and the public safe from the dangers of CO, and even increase the scale of what we do to reach a broader range of customers.

Decision: Over the RIIO-2 period we will educate 200,000 about the dangers, signs and symptoms of CO, issue 3 million CO alarms and partner with every fire and rescue service and all NHS Trusts.

Locating and isolating appliances emitting CO

We also asked customers about how they would like us to respond to CO incidents. The Option with the highest delivery targets (Option 3) to isolate the appliance emitting CO for 30,000 customers per year received the most votes (57%). Preference analysis also showed that those who supported this Option had the greatest strength of preference at 8.36 out of 10. The Option with the lowest delivery targets received 25% of the votes and the mid-range Option received 18% of the votes. As with CO safety, both CIVS and fuel poor customers voted strongly for Option 3, 59% and 56% respectively. Option 3 was also favoured by business customers, with 58% of those surveyed choosing it.

Figure 6 Locate and isolate results from BOT survey



Triangulation

Quantitative and qualitative research, together with our engagement with customers and stakeholders clearly demonstrate that our activities around CO risk, and preventing gas disruptions for vulnerable customers, are highly valuable.

The current process around responding to CO incidents involves the engineer isolating the entire gas supply to the property in order to make it safe if CO is detected. The option presented to customers here was something that we had not done before. Locating and isolating the appliance emitting CO only would allow the customer to continue to use any other gas appliances within their property.

Once we developed costed options during BOT, voters were strongly in favour (57%) of us committing to high delivery targets in the number of customers we help with locating and isolating impacted appliances. What is particularly important here is that CIVS and fuel poor customers voted strongly in favour of the highest delivery targets.

The original preference was to offer mid-range (medium) delivery targets for our response to CO. This would be a considerable step up as we currently do not provide this service and would require additional training of our engineers plus some additional equipment. However, this is something we wanted to test with customers as we believe it would provide additional safety benefits and reduce overall disruption to customers during a CO incident.

Due to this being a new activity for us, the validation of costs has been important to ensure we accurately reflect the resources and equipment required and are not over stretching ourselves in terms of the number of customers who we hope would benefit from this service.

In the period between BOT (July 2019) and October 2019 draft business plan submission, targets and costs for responding to CO incidents were reviewed, challenged and validated. We revised the targets for each target delivery level based on updated data as well as ensuring that the costs accurately reflected the delivery of the new activity. Costs went up slightly following this validation. The refreshed targets, associated costs and their effect on customer bills are shown below.

Table 15 Refreshed targets and costs for responding to CO incidents

Responding to CO incidents	Option 1	Option 2	Option 3
What Cadent could do	<ul style="list-style-type: none"> Isolate the appliance emitting CO for 10,000 customers per year 	<ul style="list-style-type: none"> Isolate the appliance emitting CO for 15,500 customers per year 	<ul style="list-style-type: none"> Isolate the appliance emitting CO for 22,500 customers per year
Average additional customer bill impact	£0.03 (£0.05, an increase of 2p on the bill)	£0.05 (£0.07, an increase of 2p on the bill)	£0.07 (£0.10, an increase of 3p on the bill)

While we have revised our target delivery numbers down, the overall costs and the subsequent bill impacts have gone up. These revisions were clearly stated to customers in our acceptability testing and were open to challenge. Nevertheless, the Plan, was accepted by over 95% of the customers and stakeholders; the customer vulnerability strategy which this sits in was one of the most positively commented on aspects of the plan.

This was one of seven commitments requiring a focussed session with the four RIIO Directors due to it being a new area and bringing potential challenges in delivery. Following a thorough deliverability assessment, we have made the decision to not offer the locate and isolate commitment for CO in RIIO-2.

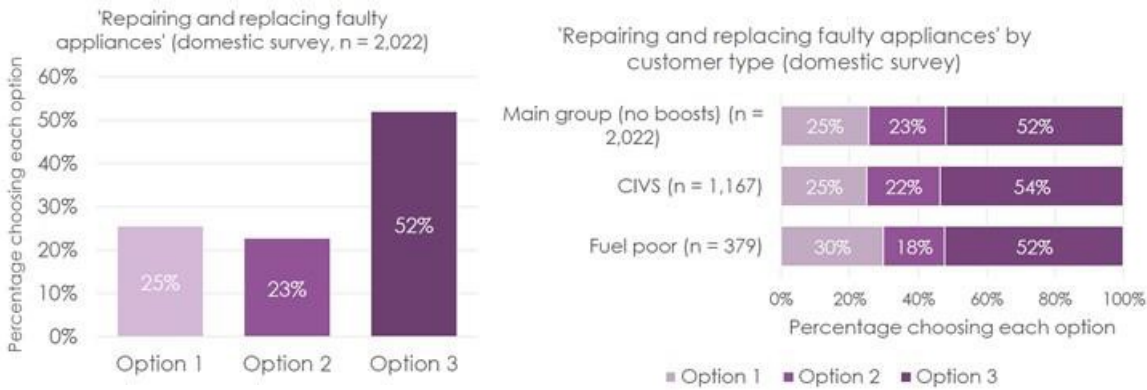
We looked at two ways of delivering this commitment, via our direct-labour emergency workforce and via partnership working. The costed options that we tested assumed that our direct labour would undertake the isolations. However, in early Autumn, our operational business experts re-evaluated how this could be delivered, especially in light of other additional requirements that we are committing to in the plan and the underlying efficiencies that we are seeking to deliver. When factoring training (and the additional training pre-requisites), workforce capacity implications, policy changes and a likelihood of potential competition concerns, we decided that this commitment was not appropriate to pursue via our direct workforce. We therefore considered delivering via partnership working after our field force had safely isolated the customer impacted by CO issues. However, this could increase the total costs and when mapping potential customer journeys, the practical reality is that this involves one engineer capping a supply and passing it to a third party who reconnects *only some* appliances in the property, leaving the customer with a further problem to solve for themselves, this would likely reduce the customer experience rather than improve it.

Final Decision: We will remove the commitment to locate and isolate appliances emitting CO. We will explore the deliverability of this service in RIIO-2, with no firm commitments. If we are able to demonstrate effective delivery this could be a potential commitment in RIIO-3 subject to customer wants and needs. This is an area that we may seek to prioritise some use of the Cadent Foundation to fund a working trial to allow us to upscale at a later date if successful.

Repairing and replacing faulty appliances

The third area in which we asked customers what they would like us to do in RIIO-2 was around repairing and/or replacing faulty appliances. During the quantitative BOT survey, customers supported the highest delivery option (Option 3) to repair 1,800 faulty appliances per year and replace 1,200 faulty appliances per year (52% of the votes). Preference analysis also showed that those who supported the highest delivery Option 3 had the greatest strength of preference at 8.17 out of 10. Options 1 and 2 both received a similar number of votes, 25% and 23% respectively. As with other areas of CO safety, CIVS and fuel poor customers also voted heavily in favour of Option 3, with 54% and 52% of the vote respectively. Option 3 was also favoured by business customers, with 53% of those surveyed choosing it as their preference.

Figure 7 Repair and replace results from BOT survey



Triangulation

Customers and stakeholders recognise the dangers that CO presents to everyone in society and understand the seriousness of the issue. Participants at focus groups were keen to understand more information on how they could be sure that gas pipes and appliances in their homes are safe. Our offering of repairing and/or replacing appliances for the most vulnerable aligns with the safety wants and needs of our customers.

Offering a repair on an appliance or a complete replacement at a large scale would be a new activity for Cadent. Therefore, we have been conservative in terms of the numbers of repair/replace appliances we would want to deliver for customers in RIIO-2. Depending on the success of any commitment we did implement in this area could mean we ramp up the numbers mid-way through or at the end of RIIO-2 and into RIIO-3.

Once we developed costed options for repairing and replacing appliances during BOT, voters were strongly in favour (52%) of us targeting the highest delivery levels for repairing and replacing appliances. As with how we respond to CO incidents, once again, CIVS and fuel poor customers voted strongly in favour of us targeting the highest delivery levels.

The original preference was to offer mid range (medium) delivery targets for repairing and replacing appliances. Although we offer a similar service in RIIO-1 through our partnership with National Energy Action, this is limited to West Midlands and would be a brand-new service offering for our other networks. Therefore, additional training would be required over and above the cost to repair or replace appliances (whether by Cadent or via a contractor). However, we particularly wanted to test this with customers as we believe it would provide additional safety benefits and support CIVS.

Due to this being a new activity for us, the validation of costs has been important to ensure we accurately reflect the resources and equipment we would need and are not over-stretching ourselves in terms of the number of customers who we'd hope would benefit from an appliance repair or replacement.

In the period between BOT (July 2019) and October 2019 draft business plan submission, targets and costs for repair and replacement of appliances were reviewed, challenged and validated. We ensured that the costs accurately reflected the delivery of the new activity. Costs went up slightly following this validation. The refreshed costs and the customer bill impacted are shown below.

Table 16 Refreshed costs for repairing and replacing faulty appliances

Repairing and replacing faulty appliances	Option 1	Option 2	Option 3
What Cadent could do	<ul style="list-style-type: none"> 600 faulty appliances repaired per year 200 faulty appliances replaced per year 	<ul style="list-style-type: none"> 1,200 faulty appliances repaired per year 600 faulty appliances replaced per year 	<ul style="list-style-type: none"> 1,800 faulty appliances repaired per year 1,200 faulty appliances replaced per year
Average additional customer bill impact	£0.02 (£0.03, an increase of 1p on the bill)	£0.05 (£0.06, and increase of 1p on the bill)	£0.09 (£0.12, an increase of 3p on the bill)

While delivery targets have remained the same, overall costs and the subsequent bill impacts have gone up. These revisions were clearly stated to customers within our acceptability testing and did not shift customer preferences. The consensus was that the changes were very minor.

Decision: Repair 1800 and replace 1200 faulty appliances every year.

What conflicts did we need to manage?

Our Social Return on Investment (SROI) analysis shows that providing CO alarms and education has a relatively small social return. However, assumptions used for these calculations does not take into account the significant number of illnesses and deaths related to CO that are not recognised or misdiagnosed due to low awareness of the symptoms. Testing for CO is often not carried out by the Emergency Services or GPs.

Locating and isolating CO emitting appliances will require a significant investment and increased time for visits if our own engineers are to carry this out directly. Therefore, using partnerships will be a more efficient approach and will also ensure that greater experience is procured.

4.2. Acceptability testing of our Quality Experience customer outcome

In our acceptability testing, the quality experience aspects of our business plan, including protecting CIVS, were generally found to be acceptable:

- Of domestic customers, 83% of those surveyed found the quality experience section of the plan acceptable, and only 1% found it unacceptable. When asked what would make it acceptable, those who answered that they found it neither acceptable nor unacceptable suggested a further reduction in prices (14%) or wanted more detail on how it would be implemented (6%). This was broadly consistent across the regions.
- 49% of Cadent business customers said that they found the quality customer experience aspects of Cadent’s business plan “very important” and 37% “fairly important” (86% in total). The breakdown across business sizes was broadly consistent, but overall acceptability increased with business size, with the percentages finding the plan either very acceptable or acceptable being 79%, 87% and 90% for sole traders, businesses with 1-9 employees and business with 10-49 employees respectively. Customers said that a quality experience was an essential element of delivering a service. However, some customers questioned the feasibility of the plan and some terms used (such as fuel poverty or PSR) were not understood. Many business customers said that the proposals around fuel poverty and supporting those in vulnerable situations demonstrated that Cadent were making efforts to go above and beyond their remit.

Our commitments relating to CO awareness were supported in most qualitative acceptability testing:

- At our acceptability testing focus groups with the general population, the CO commitments were popular; it was very clear to participants that they fell within Cadent’s remit. They supported this aspect of the plan.

- Customers at our acceptability testing with CIVS agreed that it is important to educate people on CO. Although, there were some queries about who would qualify for a CO alarm. One customer noted that the costs of a CO alarm could be an issue that stretches beyond only CIVS. Across proposed initiatives, including appliance replacement and carbon monoxide education, some customers questioned whether the number of those supported represents a high enough proportion of Cadent's customers.
- Almost all participants in our acceptability testing focus group with future customers felt that CO was an urgent priority that, although not currently the case for all properties, CO alarms should be legal requirements. While some felt that Cadent was not focusing enough on raising awareness of CO, others believed that suppliers should take responsibility for this. In Peterborough, participants were happy with the commitment to deliver 3 million CO alarms, while in Liverpool it was seen as far too small a figure, given the size of area and population Cadent cover.
- All customers at our acceptability testing focus groups with those in fuel poverty felt that it was acceptable that Cadent takes responsibility for offering support to those at risk of CO poisoning including distributing meters. They felt that it suggested that Cadent cared about their customers. Some customers felt that this should be offered to more people.

A number of participants across acceptability groups felt that delivery quantities could be higher:

- Participants at our acceptability testing customer forum felt that Cadent was 'filling a gap' in the legal framework by making an ethical decision to provide CO detectors, which they supported. Some participants found the plan acceptable, but felt the quantities could be higher, and that Cadent could do more. The majority of discussion on this outcome area focussed on how Cadent would ensure that their efforts were targeted at those who needed support most. Concerns raised included:
 - Those most in need would have difficulty accessing provisions.
 - Some customers might try to take advantage of Cadent's more philanthropic initiatives e.g. repairing and replacing a boiler for free. They want Cadent to explain how robust needs assessments will be conducted.
 - The working poor would be missing out on these initiatives.

Policy Connect were "Very supportive of the CO alarm programme and we strongly encourage the use of partnerships to deliver these alarms, as this will facilitate efficient implementation".

They also said that "The proposal to repair or replace broken appliances for low-income customers is an excellent proposal and addresses a key barrier to GDNs protecting households from CO; fear of disconnection. As with the above, we recommend Cadent uses its network of partnerships to raise awareness of this programme and make referrals."

As part of the Verve business plan consultation, a quality experience was seen as critical obligation for any organisation. Most customers saw this as a hygiene factor and it surprised a few that it was part of the plan, although many welcomed it being spelt out. Many expected the commitments to be manageable, though no customers had any real experience of Cadent's services. Providing detail of what the commitments should entail provides comfort, though failure to deliver will quickly harm trust. Reliability and reassurance in relation to safety and service delivery stood out. Some customers had issues with jargon e.g. PSR and some commitments felt hard to achieve. Despite Cadent admitting that direct contact with their customers is rare, the promise that they are available, if needed, was reassuring. Issuing CO alarms to, and educating households showed Cadent is going above and beyond in its service. This service stood out to customers as a positive and proactive service.

5. Our commitments



5.1. Our commitments for CO awareness in RIIO-2

Given the overwhelming support from across our customer and stakeholder community to continue our work to keep customers and the public safe from the dangers of CO. Over the RIIO-2 period we will measure and report on the following commitments leading to benefits to our current and future customers.

Table 17 Our commitments for RIIO-2

Output commitment	Measure definition	Benefits to current customers	Benefits to future customers	Net CVP over RIIO-2 period
Issue 3 million alarms.	Number of CO alarms issued.	<ul style="list-style-type: none"> Vulnerable and non-vulnerable customers immediately protected from CO dangers in the home. 	<ul style="list-style-type: none"> Children protected in the home. Alarms fitted owned and rented properties, so people are still protected when they move house. 	-£5.1m
Partner with every fire and rescue service, every ambulance service and every NHS Trust across our footprint.	% of partnerships with F&RS, Ambulance services, and NHS trusts.	<ul style="list-style-type: none"> A broader range of customers made aware of the dangers, signs and symptoms. Strain reduced on public services as awareness levels increase. 	<ul style="list-style-type: none"> More awareness across the adult population that is passed on to children. 	
Educate 200,000 of those most at risk via our education package .	Number of people educated about the dangers of CO through our education package.	<ul style="list-style-type: none"> Increased awareness of the dangers, signs and symptoms therefore customers can take action faster. 	<ul style="list-style-type: none"> The younger generation being taught of the dangers in school and can pass on knowledge to siblings and other family members. Knowledge retained and passed on to new generations. 	-£0.9m
Repair or replace 15,000 unsafe appliances	Number of unsafe CO emitting appliances serviced, repaired or replaced	<ul style="list-style-type: none"> The risk of CO poisoning reduces as appliances are 	<ul style="list-style-type: none"> Families (including children) are protected from 	£28.5m

condemned during CO incidents.	for those who are most vulnerable following appliance condemnation after a CO incident. For consistency, fairness and deliverability, customers will be assessed against a common set of criteria that we will define and keep relevant.	repaired or replaced in advance of any potential incident of CO.	the risks of having an unsafe appliance in the home.	
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What would the future look like (RIIO-3 and beyond) as a result of embedding our commitments?

Our approach in RIIO-2 significantly reduces the prospects of people being harmed by Carbon Monoxide and sets in train the removal of incorrect diagnosis of symptoms. By the end of RIIO-3 we envisage that every home in our footprint will have a lifesaving CO alarm installed and no one is being harmed by Carbon Monoxide in the home. We have legislation supporting the installation of alarms in all rented accommodation and all new builds.

5.2. Assessment of how to treat commitments

We have undertaken an assessment of these outputs against Ofgem’s criteria to understand the best form of regulatory treatment.

Table 18 Regulatory treatment assessment

Regulatory treatment	Criteria	Rating	Further explanation of assessment
Reputational ODI	Demonstrate this is important to customers and/or stakeholders	Green	Our preferred option for this output has strong support from our customer forums.
	Funded elsewhere in our plan, or inappropriate for funding	Red	Only a portion of CO activities we are delivering now is funded elsewhere. We are proposing to deliver over and above this level and this is appropriate for funding in line with Ofgem’s proposals.
	Can robustly measure performance improvement	Light Green	Elements of this output (e.g. CO alarms and awareness) can be easily measured. Other elements such as education programmes are more subjective and not well suited to quantitative measure.
Financial ODI	Demonstrate this is important to customers and/or stakeholders and they are willing to pay	Green	Our preferred option for this output has strong support from our recent customer forums.
	Not funded elsewhere in our plan	Green	Only a portion of CO activities we are delivering now is funded elsewhere. We are proposing to deliver over and above this level and this is

			appropriate for funding in line with Ofgem's proposals.
	Can robustly measure performance improvement		As described for Reputational ODI.
Price control deliverable	Specific deliverable with a clear timeline and targets		Our preferred option for this output contains elements of specific work programmes to widen our protections beyond offering CO alarms to vulnerable customers in RIIO-2.
	Demonstrable benefit to customers which they support		Our preferred option for this output will deliver greater protections to customers in relation to CO in line with what they have told us through our enhanced engagement.
Licence obligation	Absolute minimum, with significant customer harm if we do not deliver it		This output does not relate to meeting a minimum standard. It involves going beyond our existing safeguarding obligations and extending the protections we offer to a greater number of customers.
	Applicable to all GDNs		For this output, we have undertaken work specifically to understand the challenges and needs of customers in our area.
Business Plan Incentive	Adds to the quality of our plan, but not a specific deliverable or performance measure		Our preferred option for this output includes specific programmes of work and performance targets.
	Funded elsewhere in our plan, or inappropriate for funding		This output is not funded elsewhere in the plan and is appropriate for funding in line with Ofgem's proposals.

Doesn't meet criteria	Weakly meets criteria	Partially meets criteria	Meets criteria	Strongly meets criteria
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We are proposing a common reputational ODI under the 'use-it-or-lose-it' (UIOLI) allowance and a bespoke PCD to allow Cadent to deliver an enhanced CO package for customers. The bespoke measure will allow Cadent to go beyond offering alarms to those in vulnerable situations and expand the support package in line with customer wants and needs.

Common output

Table 19 Measure proposal: a common reputational ODI across GDNs

Output	East of England	North London	North West	West Midlands	Cadent	Comparison to RIIO-1	Cost
Alarms (base level)	38,000	19,000	25,000	18,000	100,000	Targeting 105k alarms in RIIO-1	£0.8m

Bespoke output

Table 20 Measure proposal: PCD to allow Cadent to deliver an enhanced CO package for customers

Output	East of England	North London	North West	West Midlands	Cadent	Comparison to RIIO-1	Cost
Education	76,000	38,000	50,000	36,000	200,000	Not measured – only awareness surveys	£2.1m
Alarms	1,202,000	551,000	725,000	522,000	2,900,000	Targeting 105k alarms in RIIO-1	£22.2m
Fire & Rescue partnerships	100%	100%	100%	100%	100%	New measure	£0.4m
NHS Trust partnerships	100%	100%	100%	100%	100%	New measure	
Ambulance service partnerships	100%	100%	100%	100%	100%	New measure	
Repair or replace appliances (condemned following CO incident)	5,700	2,850	3,750	2,700	15,000	New measure	£8.6m

5.3. Funding our commitments

We propose to fund our commitments through the use it or lose it (UIOLI) allowance and bespoke PCDs. We recognise that our costs associated with proposals on vulnerability go beyond the £30m joint fund proposed by Ofgem, of which approximately £11.5m will be allocated to Cadent.

However, our evidence suggests that customers are willing to pay for enhanced services related to CO safety and that they deliver a positive social return on investment.

Therefore, we propose that those initiatives which deliver the greatest net social value (i.e. SROI considered with delivery costs) are prioritised first through the common UIOLI allowance, and then bespoke PCDs set for initiatives beyond this.

In Chapter 7.3 we have shown a ranking of the benefits of all the vulnerable initiatives in terms of overall value and by value per pound invested which could be used to prioritise against the Ofgem mechanism.

6. Delivering our commitments



6.1. How we will deliver our commitments

Table 21 Delivering our commitments

Area	What we will do to deliver commitments
Customer communications	<ul style="list-style-type: none"> We will continue to raise awareness of the dangers of CO through our existing interactions on the doorstep via our emergency work and when customers contact us over the phone. All 200,000 educational conversations will be delivered in a classroom-based environment, mainly with key stage 2 children, recognising the great success rate of this in RIIO-1 (over 75% resulting in direct positive action). We will also share vital information on CO safety through our website, social media channels, radio adverts and bespoke flyers/leaflets. We will build on our Safety Seymour programme in schools to increase the scale and develop similar programmes to ensure learning is retained in later school years.
Processes/ systems	<ul style="list-style-type: none"> We will enhance the usage of data from our core systems and publicly available data to build our understanding of vulnerability in our regions in order to target our enhanced CO services to those who need it most. For consistency, fairness and deliverability when we offer to repair or replace unsafe appliances, we will ensure customers are assessed against a common set of criteria that we will define and keep relevant.
Partnerships	<ul style="list-style-type: none"> Building on the success of our existing partnerships with the Fire and Rescue service will see us increase our reach with the NHS and ambulance services. Building this network of partnerships will be key in helping us raise awareness of the dangers of CO and distribute CO alarms at a greater scale. We will be able to reach a greater number of customers and ensure they continue to feel safe and in trusted hands. We will develop relationships with leading CO alarm suppliers to ensure we are able to deliver on ambitious commitments and secure bespoke smart alarms for customers who may have specific sensory needs. We will develop partnerships with industry experts and charities to deliver our commitments to repair/replace dangerous appliances for the most vulnerable in our networks.
Engagement	<ul style="list-style-type: none"> We will continue to work with the All-Party Parliamentary Group to discuss ways of tackling CO poisoning and raising awareness of the dangers. We will continue to work with the wider utilities industry to share learning and best practice, so all customers are able to benefit and contribute to the annual showcase event to exhibit our CO safety initiatives and share best practice. We will continue to engage with expert stakeholders to ensure that we leverage good practice noted elsewhere and continually raise the bar of our service levels.
Governance	<ul style="list-style-type: none"> All commitments will be governed internally under Director of Customer Strategy, with reporting into the Sustainability Board sub-group.

6.2. How we will protect against non-delivery

Table 22 Protecting against non-delivery

Regulatory tool	How it will help in protecting customers from non-delivery
Price control deliverables	Funding for CO activities has been allowed by Ofgem in a UIOLI format. Any funding not used by GDNs will be returned in full to customers. The same principle will apply to the bespoke PCDs we propose beyond the Ofgem set UIOLI allowance.
Reputational	Non-delivery against the reputational output delivery incentives proposed against proposed partnership targets will have a negative reputational impact.

Annex – Case study: Safety Seymour success story

Caerphilly girl, 7, saves family from carbon monoxide poisoning

[June 2019 article from the BBC](#)



“A seven-year-old girl saved the lives of her family after recalling a gas safety lesson in school. Jaydee-Lee Dummett of Fochriw, Caerphilly, recognised the deadly signs of carbon monoxide poisoning when her four-year-old brother Laylan awoke disorientated in the night.

She remembered the gas emergency phone number after spotting the detector alarm had turned from green to red. Mother Lindy Burke said: “I couldn’t be prouder – she saved our lives.” She added: “from being involved in a simple lesson on gas safety, she knew exactly what to look for. Looking back, without this lesson I genuinely do not think we’d still be alive.”

“After seeing her brother so confused, [she] quickly looked for other tell-tale signs of CO poisoning and then, like it was second nature, she reeled off the gas emergency number. I couldn’t believe it.”

Jaydee-Lee’s quick thinking has been praised by engineers who arrived at the family home on 6 March to make the gas supply safe.

Sean Ward, a Wales and West Utilities emergency engineer, said “The actions of Jaydee-Lee have saved her family’s lives and she should be commended. From speaking to her that night it was clear that she took such a lot of vital information from the gas safety session which is fantastic.”

Jaydee-Lee’s school, Fochriw Primary, said she had become a “role-model” for other pupils.

Appendix 07.03.11

Tackling affordability and fuel poverty

This output case describes our overall approach to providing whole house solutions to tackle and reduce fuel poverty as well as improving affordability by offering energy and income advice and support to customers in vulnerable situations. We see RIIO-2 as a pivotal point in changing the Fuel Poor landscape across Cadent’s footprint.

In the 8-years of RIIO-GD1 we are committed to delivering 36,616 fuel poor connections across our networks by the end of the period. Due to changes in qualifying criteria of the Fuel Poor Network Extension Scheme such as the removal of the Index of Multiple Deprivation (IMD) area-based eligibility criteria and wider industry changes, we believe the number of households qualifying under the scheme, and therefore the opportunities for us to offer connections, will significantly reduce in RIIO-2.

However, during the 5-years of RIIO-2 through a range of tailored interventions we will take 36,500 customers out of fuel poverty. Our commitment in RIIO-2 goes beyond our current commitments in two ways; firstly, the average annual number of interventions is c.70% higher, and secondly our interventions will be more effective in taking customers out of fuel poverty. Our commitments include:

- A minimum of 6,250 fuel poor connections. Gas is a reliable and affordable fuel that can contribute to lifting a household out of fuel poverty.
- 5,000 additional in-house fuel poor interventions. Measures such as installing a new boiler or improving household insulation can contribute significantly to the energy efficiency of a household and reduce energy bills.
- Offer income and energy advice to 25,250 customers, delivered via a strategic partnership, using data driven techniques to identify households in fuel poverty, in conjunction with referrals from other partners such as the NHS and Fire and Rescue services. Trained surveyors will visit the households and undertake a tailored survey identifying ways that customers could reduce their energy costs and improve their disposable income including benefits maximisation.
- Trial a pioneering new approach to fuel poverty funding in England that would see alignment of all schemes and funding, ensuring that interventions and solutions target households who are experiencing fuel poverty.
- Continue to innovate and use data in developing methods to better target those that should qualify for support.

We will deliver:

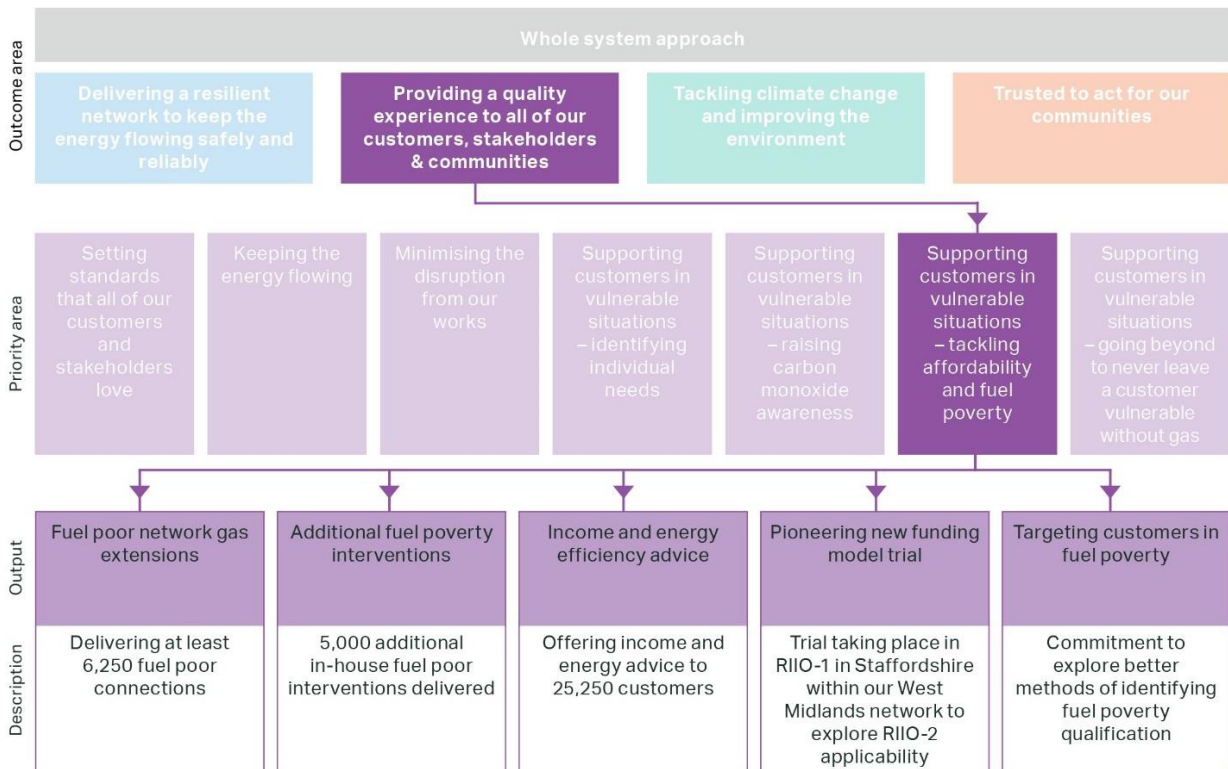


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How we have developed our proposals

1. **We started with our vision** – Our vision is to set the standards that all of our customers love and others aspire to. With over 1.5m households living in fuel poverty across our regions, it is essential for us to understand the specific needs of these customers, for them to understand us, and to put plans in place to support them. Our vulnerability strategy aims to keep customers warm, independent and safe in their homes. Therefore, we must support our customers experiencing fuel poverty and take significant action to remove them from this vulnerable situation.
2. **We assessed the scale of the problem** – Fuel poverty remains a significant problem in Great Britain, with approximately 1.5 million customers living in our networks currently experiencing fuel poverty. This is 11.7% above the national average fuel poverty rate. In our most severely affected area, 1 in 5 customers live in fuel poverty. Therefore, we have a responsibility to play our part with the wider industry and government to tackle affordability and reduce fuel poverty.
3. **We reviewed the role of Gas Distribution Networks (GDNs) in reducing fuel poverty in RIIO-1** – The GDN role has been limited to providing gas connections only to households in close proximity to our network through the Fuel Poverty Network Extension Scheme (FPNES). Our experience and that of our delivery partner and community interest group, Affordable Warmth Solutions (AWS) suggests that in many cases, particularly to off-gas rural customers, alternative interventions may provide a more effective and long-term solution to customers and households experiencing fuel poverty. The existing RIIO-1 measure does not provide any support to almost half of those suffering fuel poverty in our network as they already have a gas supply.
4. **We have understood what our customers and fuel poverty experts are telling us**– Customers and experts highlight the need to approach fuel poverty in different ways, not purely relying on existing regulatory network solutions (e.g. providing gas connections to households in close proximity to the grid). Energy efficiency and other income related actions are a clear priority that need to be addressed and implemented as well as financed through new ways of working.
5. **This provided us with a clear problem statement** – We need to assess the best ways to provide solutions to tackle and reduce fuel poverty at the household level (whole-house solutions), not just in relation to the gas supply.
6. **We gathered insights from targeted engagement** – Engagement from customers and stakeholders highlighted the importance of reducing fuel poverty across our networks. Many customers were not aware of fuel-poverty reduction schemes, and there may be a broader role for Government, Ofgem and GDNs to tackle fuel poverty through in-house solutions. We have worked with numerous expert stakeholders to review the current work we do to support customers out of fuel poverty and consider and develop new thinking about how we can move this forward in RIIO-2.
7. **There is mis-alignment of funding and approaches to tackling fuel poverty across Scotland, England and Wales.** In England there is a lack of funding for in-house measures that makes it increasingly challenging for us to address fuel poverty through gas connections alone. Our goal is to align our outcomes with the government’s fuel poverty strategy. Our stakeholders have told us that the Energy Company Obligation (ECO) alone does not provide sufficient funding to support FPNES and in

- response we have developed our broader model around complementing existing schemes. Considered in isolation, England has no fiscal solution to the issue of funding 'in-house' measures.
8. **We have defined our objectives by aligning with what customers, industry and partners supporting those in fuel poverty tell us they need** – We want to deliver the most effective solutions to help lift households out of fuel poverty. We will achieve this by improving the way we reach customers living in fuel poverty, joining up all the available funding to address fuel poverty and encouraging collaboration and best practice across the industry.
 9. **We have developed and considered a number of options** - Based on these insights and best practice, we developed several options that we tested with customers. These included:
 - Maintaining the status quo and delivering fuel poor connections to households not on the gas network.
 - Broadening the fuel poor output by making fuel poor connections and interventions available to all households in fuel poverty.
 - Establishing a centralised model to address fuel poverty that is available to all households.
 10. **We tested these options with our customers and expert stakeholders** – this has confirmed that there is support from our customers and expert stakeholders for Cadent to fund a range of additional solutions to support customers and households in fuel poverty, including the continued delivery of gas connections to assist those in fuel poverty who are not connected to the gas network. Whilst there is clear support to fund the delivery of in-house interventions and energy and income advice, this is at a smaller scale than our initial aspirations that we tested in July and August.
 11. **Our commitments** - We are proposing to take 36,500 customers out of fuel poverty through a range of tailored interventions. This will include 6,250 fuel poor gas connections, 5,000 in-house interventions and energy and income advice for 25,250 customers.
 12. **We are seeking £47.7m in funding to deliver this** – However, we have calculated a net benefit of £61.3m in delivering these commitments
 13. **What will the future look like after we embed our RIIO-2 commitments?** – We see RIIO-2 as a pivotal point in changing the Fuel Poor landscape across Cadent's footprint by 2030 from one that has the highest rates of Fuel Poverty in England, to one that is below the national average. Establishing whole home thinking and a trusted funding body will help ensure that both the home and the person is removed from Fuel Poverty permanently, and households know where to go if they need impartial support with managing their energy needs.

The tables below summarise our commitments in this area:

Table 1 Summary of our commitments

Fuel poor gas network extensions	
Common / Bespoke	Common
Output type	Price Control Deliverable
Comment	Minimum target volume of fuel poor connections to achieve
Target	6,250 connections over the RIIO-2 period
Cost implications (annual)	£3m
Incentive range	N/A
Net Consumer Value Proposition (CVP)	N/A – Common output

Additional fuel poverty interventions	
Common / Bespoke	Bespoke
Output type	Price Control Deliverable
Comment	In-house energy efficiency measures.

Target	5,000 interventions over the RIIO-2 period
Cost implications (annual)	£5.7m
Incentive range	N/A
Net CVP	£13.2m

Income and energy efficiency advice	
Common / Bespoke	Bespoke
Output type	Price Control Deliverable
Comment	Income and energy efficiency assessments offer to the most vulnerable.
Target	25,250 interventions over the RIIO-2 period
Cost implications (annual)	£760,000
Incentive range	N/A
CVP	£48.1m

Pioneering new funding model trial	
Common / Bespoke	Bespoke
Output type	Output Delivery Incentive (R)
Comment	A trial will take place in RIIO-1 in our West Midlands network. This will explore the applicability to RIIO-2
Target	N/A
Cost implications (annual)	N/A
Incentive range	N/A
CVP	No financial CVP, qualitative benefits only

Targeting customers in fuel poverty	
Common / Bespoke	Bespoke
Output type	Output Delivery Incentive (R)
Comment	Commitment to explore better methods of identifying fuel poverty qualification
Target	N/A
Cost implications (annual)	N/A
Incentive range	N/A
CVP	No financial CVP, qualitative benefits only

1. Defining our customers' needs



1.1. What is the area?

Approximately 1.5 million customers who experience fuel poverty live in our networks. From the top 20 local authorities in England most affected by fuel poverty, 19 are within our networks. In our most severely affected area, 1 in 5 customers live in fuel poverty. Therefore, we understand our responsibility to play our part with the wider industry and government to tackle affordability and reduce fuel poverty. A household is considered to be in fuel poverty if they have higher than average energy bills and their income puts them below the poverty line. The fuel poverty gap is also used to reflect the extent of fuel poverty experienced by a given household – defined as the amount of money needed to meet the fuel-poverty threshold.

Fuel poverty can be addressed by increasing household income, improving the energy efficiency of a household and reducing the cost of fuel. Currently, GDNs can indirectly reduce fuel costs of a household by providing a gas connection, which leads to potential energy savings when a new heating system is installed. However, fuel poverty extends beyond those who can be served by the gas network. There is an opportunity in RIIO-2 for new gas connections to be part of a broader obligation to provide whole-house solutions, to have a greater impact in tackling and reducing fuel poverty. This includes improving the energy efficiency of homes through in-house interventions (e.g. replacement windows or cavity wall insulations), working with partners to make effective referrals and offering income and debt advice.

There are several obligations across the energy industry with different levels of funding to address and reduce fuel poverty. However, the alignment of these obligations and associated funding is inconsistent across the country meaning many customers experiencing the effects of fuel poverty are unable to benefit. We have acknowledged the need for an alternative delivery model to align all obligations with the Government's Fuel Poverty strategy and allow responsible companies to effectively address fuel poverty. At the core of our proposed delivery model would be a centrally contracted organisation(s) appointed by Government with the responsibility to work with partners to deliver the Government's Fuel Poverty Strategy. Funding for this programme could be a blend of Government funds supplemented by regulated funds and energy company funds (from ECO or successor schemes).

In RIIO-1 we delivered our fuel poor outputs with the support and assistance of our strategic partners, Affordable Warmth Solutions (AWS). AWS is a Community Interest Company established in 2008 and has expertise and experience in supporting customers out of fuel poverty. They assist fuel poor homes in the most deprived areas in England by offering new gas connections to consumers not currently connected to the Cadent gas distribution network. They also provide free or discounted gas central heating systems to qualifying households through The Warm Homes Fund and local authorities/housing associations. As part of their interventions they help customers save money by providing advice on income maximisation, energy efficiency and choosing energy tariffs.

AWS recently celebrated its ten year anniversary, having helped 90,000 families to live in a warm, dry home. The Community Interest Company, which based in central Solihull, has connected 48,000 homes to cheaper and more efficient gas central heating for the very first time and helped a further 42,000 households with insulation, energy efficiency advice, access to discounted heating and other initiatives. The results have enabled some of the UK's poorest communities to save a collective £200 million in fuel bills and has reduced the UK's Carbon Dioxide emissions by 3.5 million tonnes – the equivalent of taking 580,000 cars off the road, permanently.

1.2. Why is it important to customers and stakeholders

Fuel poverty remains a significant problem in Great Britain and National Energy Action (NEA) estimates that in the next 15 years there will be 125,000 premature deaths as a result of living in cold homes, £950m of fuel debt

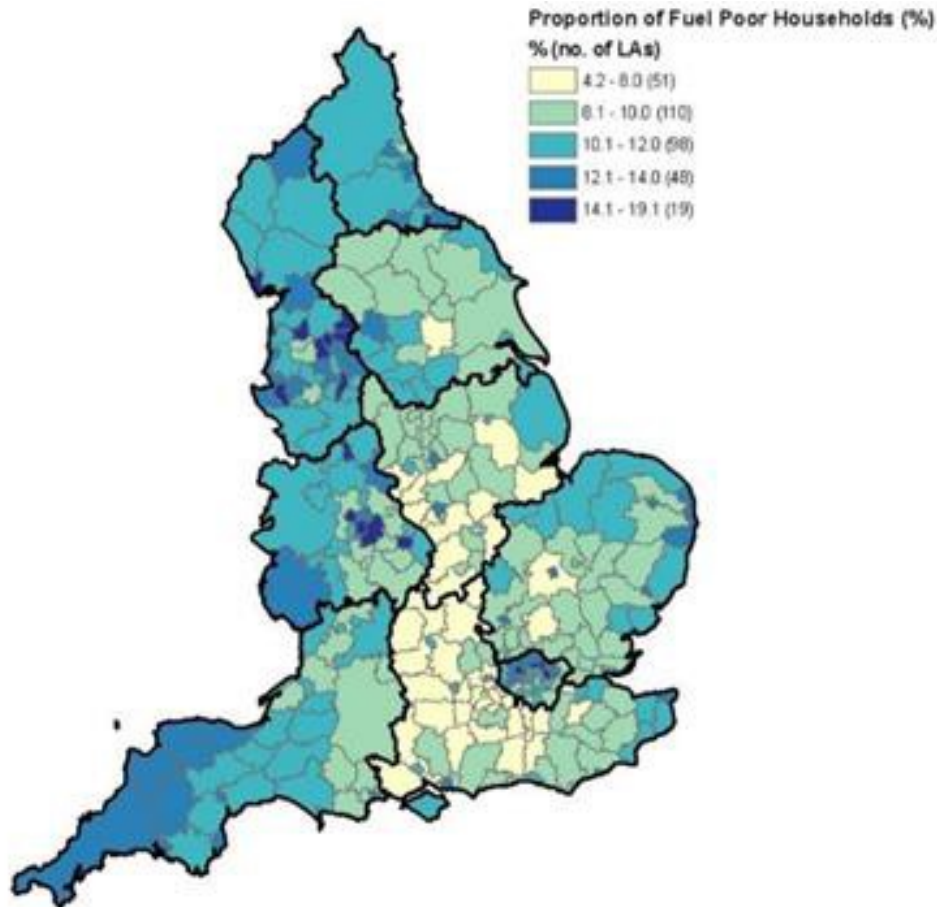
(i.e. money owed to energy suppliers) which will not be spent in local economies, and £22bn spent by the NHS treating cold-related conditions.

Using the 'Low-Income High Cost'¹ definition, The Department of Business, Energy and Industrial Strategy (BEIS) estimated that fuel poverty affects 2.55 million households in England (2016). This represents approximately 11.1% of all English households. This is an increase of 2%, from 2.50 million households in 2015. The number of households in fuel poverty in our networks is shown in the table below.

Table 2 Number of households in fuel poverty within our networks

Region	Number of fuel poor homes	Percentage of total homes
East of England	469,165	11.1%
North West	387,098	12.8%
London	304,201	9.9%
West Midlands	327,235	13.7%

Figure 1 Households in the North West and the West Midlands have the highest levels of fuel poverty in 2017



Source BEIS²

Almost 20% of the households that are suffering in fuel poverty within our networks are concentrated in 10 authority areas, namely Newham; Manchester; Liverpool; Blackpool; Blackburn with Darwen; Birmingham; Sandwell; Brent; Coventry and Stoke-on-Trent. As can be seen on the map in **Figure 1**, Fuel Poverty is highly

¹ Under the Low Income High Cost indicator, a household is considered to be fuel poor if: they have required fuel costs that are above average (the national median level), were they to spend that amount they would be left with a residual income below the official poverty line

² [Sub-Regional Fuel Poverty in England, 2019 \(2017 data\), BEIS](#)

concentrated around London, North West and West Midlands networks, with the East of England having pockets based around Sheffield, Derby and the more rural coastal elements of our network.

Factors that influence fuel poverty

Three factors influence whether a household falls into fuel poverty: household income, energy efficiency and the cost of fuel. GDNs are able to directly or indirectly influence a household’s energy efficiency and fuel costs and to a lesser extent, a household’s disposable income. Gas is more affordable in comparison to many other sources of fuel as the table below highlights:

Table 3 Cost of heating an average household

Fuel type	Fuel price (£/KWh)	Added standing charge	Fuel prices allowing for appliance efficiency (£/kWh)	Appliance efficiency	Total Heating cost* including standing charge (£/year)
Mains gas	0.036	83.87	0.041	89%	595.1
LPG	0.067	0	0.076	89%	946.6
Heating oil	0.063	0	0.081	78%	1006.4
Wood (Pellets)	0.064	0	0.098	65%	1223.1
Electricity (Economy 7)	0.098	78.4	0.098	100%	1303.4
Coal	0.057	0	0.126	45%	1577.8
Electricity (Standard rates)	0.140	72	0.140	100%	1822.0

*Assuming 12,500 kWh required to heat a home

Source: Ofgem. Options for the Fuel Poor Network Extension Scheme in RIIO-2 - <https://www.ofgem.gov.uk/ofgem-publications/145146>

The FPNES plays an active role in tackling fuel poverty by providing free or subsidised connections to the gas grid for eligible households that would not be able to afford a connection. Although the FPNES has benefited customers who have been able to access the scheme, many experiencing fuel poverty have not benefited. Many households experiencing fuel poverty are too far from the gas network and therefore ineligible for a fuel-poor connection as the cost of connection is considered ‘uneconomic’. In addition, a fuel poor connection can only be provided if there is sufficient funding for in-house measures (e.g. a new boiler or insulation). However, the lack of funding means many customers are unable to benefit.

Ofgem has confirmed that FPNES will continue in RIIO-2. However, we must ensure alignment with other fuel-poverty schemes and the government’s fuel-poor strategy. In addition, we and our stakeholders strongly believe there is an opportunity for the provision of new gas connections to be part of a broader obligation to provide whole-house solutions including improvement of the energy efficiency of the home.

Households living in properties with the lowest energy ratings (E, F or G) make up 39.7% of all fuel poor households. This is significant compared to households that live in properties with the highest energy ratings (A, B or C), which make up just 7.2% of all fuel poor households.

The opportunity is there in RIIO-2 to change the fuel poverty landscape by using a range of powerful data sources to help better identify those most in need and transform the solutions we provide to customers currently experiencing fuel poverty.

1.3. What insights are shaping our thinking

Sources of insight



14,268

Stakeholders and customers engaged



36

Sources of insight



27

Tailored RIIO-2 engagement activities

We engaged with the following stakeholders and customers across a range of methods to understand their needs

Table 4 Customers and stakeholders engaged

Customers	Strategic partners
<ul style="list-style-type: none"> • Domestic customers • Fuel poor customers • Customers in vulnerable situations • Small businesses • Future customers • English as a second language (ESL) customers • Non-English-speaking customers • Employees 	<ul style="list-style-type: none"> • Affordable Warmth Solutions • Sustainable Home Survey • The Behaviouralist
Industry and influencers	Regional bodies
<ul style="list-style-type: none"> • Department of Business, Energy and Industrial Strategy (BEIS) • Gas Distribution Networks (GDNs) • Fuel poor joint GDN collaboration group • Ofgem • Policy Connect • National Energy Action • Citizens Advice • EON Energy • Property Tectonics • Agility Eco • Marches Energy Agency • Happy Solutions 	<ul style="list-style-type: none"> • County Councils: • Staffordshire County Council • Derbyshire County Council • Shropshire Council • Suffolk Coastal Council • District Councils: • Northeast Derbyshire District Council • East Suffolk District Council • Bolsover District Council

Insights were gathered through historical engagement, BAU insights, and our RIIO-2 engagement programme. We have summarised each activity, the questions asked (where applicable), the numbers involved, and a robustness score based on the following criteria:

Criteria	Robustness		Relevance
The score shown is based on a combination of the robustness of the source information (judged on whether it was recent, direct and representative) and the relevance to this area.	<1.5	One or zero criteria met	Limited relevance
	1.5-2.0	Two criteria met	Significantly relevant and contributory
	>2.0	All criteria met	Highly relevant and contributory

As we have four broad commitments in this area, we have scored each source against the following commitment area:

- C1 – Fuel poor network extension scheme
- C2 – Enhanced fuel poor interventions
- C3 – Income and energy efficiency advice
- C4 – Central funding scheme pilot

Table 5 Engagement activities

Phase	Date	Source name	Source description	Questions asked	# of stakeholders	Score			
						C1	C2	C3	C4
Historical engagement	June-10	Eaga Charitable Trust: Coping with low incomes and cold homes	Eaga Charitable Trust compiled a report on “Coping with low incomes and cold homes” which we considered with regards to our fuel poverty support.	N/A	N/A	-	-	3.0	-
	July-14	The Behaviouralist	We consulted research from a report titled “Using behavioural economics to reduce fuel poverty” by the Behaviouralist.	N/A	N/A	-	-	3.0	-
	Dec-16	Bonfield Review, Dec 2016	We took into consideration research and findings from the Bonfield Review on consumer protection and advice in relation to energy efficiency.	N/A	N/A	-	1.0	3.0	-
	May-18	Stakeholder advisory panel	As a precursor to our CEG, the Stakeholder Advisory Panel offered us a forum to raise and discuss issues with a range of interested parties including representatives from Citizens Advice, Age UK and the Energy and Utilities Alliance.	We presented to the panel on a range of topics across the years of its existence, including in particular build up for our RIIO-2 business plan including areas such as the environment, vulnerability and fuel poverty.	11	-	-	3.0	-
	2018	London Collaboration forum – SGN & National Grid	We held a workshop with stakeholders in our London Network, including other utilities, charities, Local Authorities and Emergency Services. The purpose was to share the work we are doing on streetworks and customers and community and take feedback from stakeholders.	Attendees were shown our plans for streetworks such as no-dig techniques and asked to discuss the outcomes we should try to deliver. Following this, they were introduced to our plans for supporting those who need help the most and those in fuel poverty and asked to comment.	47	1.5	-	-	-

BAU Insights	Aug-18	Ofgem's RIIO-2 Customer and Social working group on 30 Aug 2018	We discussed fuel poverty with key industry players and the regulator at Ofgem's Customer and Social Issues Working Group. There were circa 12 attendees at each working group.	N/A	12	3.0	3.0	-	-
	Nov-18	BEIS energy efficiency meetings	We attended meetings held by BEIS and other industry participants on energy efficiency.	N/A	N/A	-	2.0	2.0	-
	2018	BEIS fuel poverty statistics	N/A	N/A	N/A	-	1.0	3.0	-
	Feb-19	Ofgem's Future of Energy Conference	We attended Ofgem's Energy Conference.	N/A	N/A	3.0	-	-	-
Discovery	Aug-18	Stakeholder interviews	We interviewed stakeholders with a breadth of expertise across each of our region, based on our stakeholder content list. We held a 20-30 minute conversation with stakeholders to identify topics of interest to them.	The interviews sought to understand each stakeholder's awareness of Cadent and how they, and their community, were affected by gas distribution. Future challenges that Cadent may face were discussed and the 4 business plan outcomes were discussed with the aim of understanding their relevance and importance.	21	-	-	2.0	-

Discovery	Sep-18	Deliberative workshops	We delivered full day deliberative workshops in each of our regions to discuss what services customers find important, find our customer expectations of GDNs and gather feedback on our (at the time) four draft customer outcomes. The sessions began with information-giving and building knowledge of Cadent, then eliciting participants' views of services and priorities.	Participants were asked about their awareness of Cadent and expectations of a GDN. Participants were also asked for their views on the four draft outcomes in Cadent's business plan: keeping your energy flowing safely, reliably and hassle free; protecting the environment and creating a sustainable energy future; working for you and your community safeguarding those that need it most; value for money and customer satisfaction at the heart of all our services. The aim of the discussions was to shape these draft outcomes and identify any gaps.	206	2.5	-	2.0	-
	Oct-18	Focus groups with hard to reach groups	We held focus groups with individuals considered 'hard to reach' in each of our regions. Each group contained 8-10 participants and lasted two hours. Participants covered three groups: urban customers with English as a Second Language, Future Generations and Non-Customers (predominantly from rural areas). These built on our previous deliberative workshops, whose voices could otherwise become 'lost within the crowd'.	Participants were asked what they expected of Cadent. The four draft outcomes for the business plan were shared with participants and they were asked for their views on these, what they wanted to see from Cadent and whether there were additional outcomes that Cadent should include.	57	2.0	-	-	-

Discovery	Oct-18	Domestic survey	We ran an online survey of a representative sample of our domestic customers (and non-customers). This aimed to test the findings of the earlier deliberative workshops and focus groups.	Participants were asked closed questions on 14 topics we could cover in the business plan (e.g. minimising leaks, affordability) and asked to rate how important they are. They were then asked more open questions about the level of importance and whether anything was missing from the list of 14. Finally, they were asked a multiple-choice question on their preferred engagement methods for the future.	2,332	2.0	-	-	-
	Feb-19	ENA and Accent RIIO-2 stakeholder engagement (decarbonisation)	A broad range of stakeholders from across the country, across different areas of the sector and representing a range of organisations were brought together by all GDNs to understand their views of how the gas networks should individually and collectively support the decarbonisation of heat through their RIIO-2 business planning. Most stakeholders preferred taking a broad definition of 'whole systems' and wanted future-proofed assets and decision-making with the longer-term end goal in mind. But they emphasised the need for urgency in putting the stepping stones in place to reach decarbonisation targets.	Stakeholders were asked what a whole energy system approach should look like, and what gas network RIIO-2 business plans should focus on in the context of decarbonising the gas system. The impact on customers in vulnerable situations, collaboration between gas networks and the funding of, and barriers to, decarbonisation were also discussed.	37	2.0	-	-	-

Targeted	Feb-19	Cadent Customer Forum (February 2019) Safeguarding	The first round of customer forums was held at three locations (London, Manchester, Birmingham) involving 96 customers. The forums are designed to be ongoing conversations with customers, with engaged discussions around the role of Cadent within society. The first customer forum focused on safeguarding and supporting customers in vulnerable situations to inform these sections of the RIIO-2 business plan. Within these themes, we customer expectations and priorities.	Customers were asked what they expected from Cadent in relation to safeguarding, how Cadent should help customers in vulnerable situations. The forums also sought to explore customer priorities for safeguarding and the reasons for that prioritisation.	96	-	-	2.5	-
	Mar-19	Cadent Fuel Poverty stakeholder events (March 2019)	We held workshops in Stafford and Cambridge with 12 stakeholders to discuss the strengths and weaknesses of the fuel poverty network extension scheme and explore opportunities for improvements for RIIO-2.	Stakeholders were asked about the strengths and weaknesses of the fuel poor network extension scheme and Cadent's current approach to fuel poverty. The workshops sought to explore the opportunities for improvement for RIIO-2 and understand thoughts on Cadent's alternative delivery model.	12	2.5	2.0	-	-

Targeted	Mar-19	Cadent Customer Forum (March 2019) Carbon Monoxide and Fuel Poverty	<p>The second round of customer forums was held at four locations (Ipswich, London, Manchester, Birmingham) involving 110 customers. The forums are designed to be ongoing conversations with customers, with engaged discussions around the role of Cadent within society. The second customer forum focused on fuel poverty and carbon monoxide safety to inform these sections of the RIIO-2 business plan. Within these themes, we investigated customer expectations and appetite. Overall, customers did not automatically think that addressing fuel poverty and CO is Cadent's responsibility, nonetheless, the majority supported the highest level of Cadent investment.</p>	<p>Customers were asked how Cadent fitted into the picture of cause and responsibility with respect to CO and fuel poverty. They were encouraged to consider Cadent's responsibility for safeguarding and its responsibility as a private, regional monopoly. Participants were presented with four or five (costed / quantified) options for actions that Cadent could take to address CO / fuel poverty and voted and provided the reasons for their choice. This was followed by a group discussion where additional options could be suggested.</p>	110	-	3.0	3.0	-
	May-19	Accent report for GDNs on GSOP	<p>Accent was commissioned to understand how well the needs of customers in vulnerable situations are met by the GDNs, and assess if revised or additional GSOPs, specifically for customers in vulnerable situations. They sought views through 16 telephone interviews with stakeholders working with, or in the interests of, CIVS (representatives of Gas Network partner agencies consumer bodies, charities and other relevant organisations). Overall, it was agreed that the GSOPs are, broadly, fit for purpose and do not require wholesale change. However, a number can be improved and there is stakeholder support for enhancements.</p>	<p>As part of the stakeholder telephone interviews, views were sought on a number of existing GSOPs and whether they were appropriate or could be improved: GS3 (heating and cooking facilities for PSR), GS1 (supply restoration), GS2 (reinstatement of customers' premises), GS13 (notification in advance of planned supply interruptions customers). In addition, automatic payment was discussed as a potential improvement to existing GSOPs. Potential new GSOPs were also discussed with respect to face to face appointments; guaranteed appointment times; and additional support (e.g. hot food, shower facilities, alternative accommodation).</p>	16	-	2.0	-	-

<p>Willingness To Pay</p>	<p>Jan-19</p>	<p>NERA report for Cadent, January 2019: The benefits of extending the gas network to off-grid communities</p>	<p>We commissioned NERA to estimate the social benefits of extending the gas network to off-grid communities or supporting fuel poor customers in obtaining connections to the gas grid. The report concludes that the value of providing a network extension is higher in rural areas and trends upwards over time due to growth of uptake. Furthermore, from 2030 onwards, the value of the extension depends upon the evolution of the mix of heating technologies.</p>	<p>N/A</p>	<p>0</p>	<p>3.0</p>	<p>-</p>	<p>-</p>	<p>-</p>
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<p>Willingness To Pay</p>	<p>Feb-19</p>	<p>NERA & Traverse: Estimating Customers' Willingness to Pay for Changes in Service during RIIO2, 28 May 2019 (Stated preference)</p>	<p>We commissioned NERA and Traverse to design, implement and analyse a stated preference survey to estimate domestic and non-domestic customers' willingness to pay for improvements in our service. Twelve different service attributes were considered. These covered issues relating to interruptions (probability, length and timeslots for restoration); the environment (leakage; green gas, clearing up disused sites); reinstatements (duration and number) and supporting the vulnerable and fuel poor (provisions during an interruption and connecting fuel poor to the network).</p>	<p>The surveys consisted of twelve attributes related to the service provided by Cadent Gas, which were grouped into three sets of attributes to ensure customers were presented with a manageable number of attributes at any one time. Customers were asked to choose a preferred service package from a number of options in each of these areas, given the associated bill impact.</p> <ul style="list-style-type: none"> ▪ First set of attributes: <ul style="list-style-type: none"> – Restoring gas supply after short unplanned interruptions (3-24 hours); – How long the short interruption lasts; – Restoring gas supply after an unplanned interruption lasting more than 24 hours; and – Offering customers time slots for restoring gas supply; ▪ Second set of attributes: <ul style="list-style-type: none"> – Reducing the proportion of gas lost through leakage; – Proportion of gas that comes from green sources; – Clearing up disused sites; and – Reducing the number of excavations in roads; ▪ Third set of attributes: <ul style="list-style-type: none"> – Providing welfare services during interruptions; – Measures to address fuel poverty; – Connecting households in fuel poverty to the network; and – Reducing the length of time it takes to carry out work. 	<p>3,103</p>	<p>3.0</p>	<p>3.0</p>	<p>-</p>	<p>-</p>
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<p>Willingness To Pay</p>	<p>Jul-19</p>	<p>NERA & Traverse: Triangulation by attribute, July 2019</p>	<p>We commissioned NERA and Traverse to produce a report which “triangulates” the willingness to pay evidence previously prepared through desk-based research and surveys. This brought together the conclusions from previous studies including: (1) the benefit transfer report, which used desk-based research to survey existing valuation evidence available from published sources; (2) the targeted benefit transfer study, focusing on estimating the economic value of extending the gas network to new customers; (3) the stated preference study; and (4) the revealed preference study focused on surveying customers about their experiences of actual gas supply interruptions. The objective was to draw on a range of estimates to improve the reliability of any business planning assumptions that we make.</p>	<p>N/A</p>	<p>0</p>	<p>3.0</p>	<p>3.0</p>	<p>-</p>	<p>-</p>
<p>Business Options Testing</p>	<p>Jun-19</p>	<p>Cadent customer forum, round 4, Traverse</p>	<p>We held our fourth customer forum in Ipswich, London, Birmingham and Manchester to get customers’ views on their priorities on a range of issues. This cross section of customers discussed with us various options (some proposed by us, some suggested by them) in a deliberative style session. Key topics discussed included: customer service, replacing pipes, reinstatement, interruptions, fuel poverty, carbon monoxide, decarbonising energy and becoming carbon neutral.</p>	<p>Participants were asked questions about a range of topics. On customer service, we explored what “great” looks like. We also asked about timeliness and communication with respect to reinstatements. We also tried to understand the level and type of service customers want during an unplanned interruption, including views on provisions, length of time without gas, and timeslots for getting the gas turned back on. We also asked for views on our options for addressing fuel poverty and carbon monoxide.</p>	<p>200</p>	<p>-</p>	<p>1.0</p>	<p>1.0</p>	<p>-</p>

<p>Business Options Testing</p>	<p>Aug-19</p>	<p>Future generations workshops, Traverse</p>	<p>We commissioned Traverse to hold workshops with 45 “future generations” participants (aged between 13 and 18) to understand their priorities. This mainly involved younger people to specifically ascertain their input, given that decisions that we make in RIIO-2 will ultimately impact them. They supported the views of other customer segments but stressed more urgency and a higher priority on our EAP. Most saw this area as a core requirement (on their hierarchy of needs), whereas other customers saw it less as core and more as a psychological need.</p>	<p>Customers were asked about their priorities. We also sought to understand how they thought Cadent should best decarbonise their assets and services, and minimise environmental impact, how Cadent should best approach pipe replacement, their views of new proposals for length of interruptions, provisions and compensation for MOBs, and their views of our proposals to protect customers in vulnerable situations.</p>	<p>45</p>	<p>-</p>	<p>1.5</p>	<p>-</p>	<p>-</p>
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<p>Business Options Testing</p>	<p>Aug-19</p>	<p>Workshops with ESL and non-English speakers, Traverse</p>	<p>We commissioned Traverse to hold three workshops with ESL and non-English speaking customers: 22 Polish-speaking participants with English as a second language and 9 Bengali speaking participants. During this session we asked customers to tell us what role they thought that we should play in relation to carbon monoxide safety, provisions during an interruption and responding to climate change. They agreed that communication was critical with respect to interruptions. For provisions, all agreed oil filled radiators were important, but there were interesting differences too: the Bengali group prioritised hot meal vouchers & kettles, both given low priority by the Polish group which favoured shower access & hot plates. They confirmed that they believed, we as other big businesses should be acting responsibly and seeking to reduce our carbon footprint. The specific intention of this session was to ascertain the views of a different (typically hard to reach) group of customers to check if their views were consistent with other customer segments.</p>	<p>Customers were asked about their priorities. We also sought to understand their views on our business options in relation to carbon monoxide, provisions during interruptions, and decarbonisation.</p>	<p>31</p>	<p>-</p>	<p>2.0</p>	<p>-</p>	<p>-</p>
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<p>Business Options Testing</p>	<p>Aug-19</p>	<p>Workshops with customers in fuel poverty, Traverse</p>	<p>We commissioned Traverse to engage with 83 customers in fuel poverty at deliberative workshops in Wolverhampton and Peterborough to understand their views on options for our business plan in relation to a number of areas of relevance to customers in fuel poverty or vulnerable situations. The most ambitious option (option 3) was chosen for each of CO awareness & action, priority safety checks and fuel poor solutions (including income & energy advice). The specific intention of this session was to ascertain the views of a different (typically hard to reach) group of customers to check if their views were consistent with other customer segments.</p>	<p>Customers were asked about their priorities. We also sought to understand their views on our business options in relation to carbon monoxide, proactive safety checks, addressing fuel poverty, PSR awareness, the length of, and provisions during interruptions.</p>	<p>85</p>	<p>-</p>	<p>2.5</p>	<p>-</p>	<p>-</p>
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Business Options Testing	Aug-19	Domestic and business surveys, quantitative phase, Traverse	We commissioned Traverse to conduct a survey of more than 2000 domestic customers and more than 500 business customers to understand preferences between the different business options under consideration across 14 different service areas. The options presented combined service provisions e.g. educate 50,000 customers most at risk of CO poisoning and a monetary impact on the customer's annual bill. Across both the domestic and business surveys, the highest weighted average scores, supporting the most ambitious options, were achieved in areas relating to safety and protection of vulnerable customers: responding to carbon monoxide incidents, repairing and replacing faulty appliances, helping vulnerable customers without gas and carbon monoxide safety.	Domestic and business customers were asked their preferred options (with varying degrees of ambition / cost) for 14 commitments: 1. Carbon Monoxide Safety 2. Responding to Carbon Monoxide incidents 3. Repairing and replacing faulty appliances 4. Helping vulnerable customers without gas 5. Helping all customers without gas 6. Getting customers back on gas 7. Carrying out safety checks 8. Minimising disruption from our works 9. Tackling Fuel Poverty 10. Awareness of Priority Services Register 11. Priority Services Register training 12. Becoming a Carbon neutral business 13. Communities not currently connected to gas 14. Keeping the energy flowing reliably and safely	2,547	-	2.5	3.0	-
	Sep-19	Ofgem's customer and social working group (28 February 2019)	We discussed fuel poverty with key industry players and the regulator at Ofgem's Customer and Social Issues Working Group. There were circa 12 attendees at each working group.	N/A	12	-	-	3.0	-

Acceptability Testing	Oct-19	Acceptability testing – customer forum	We commissioned Traverse to explore the acceptability of our plans and commitments in each of the three outcome areas (environment, quality experience and resilience) with 109 customers who had attended previous customer forums. Overall, participants found our plans to be both acceptable and affordable.	A group discussion was facilitated to discuss views on Cadent’s plans in each of the three outcome areas and participants were also asked to complete a survey to rank levels of acceptability and affordability.	109	3.0	3.0	2.5	2.0
	Oct-19	Acceptability testing – final survey report on domestic customers,	We commissioned Traverse to test the acceptability and affordability of Cadent’s proposed plan amongst domestic customers. This consisted of surveying 4,446 domestic customers through on-line and face to face methods. This showed that the plan had achieved high levels of acceptability and affordability amongst domestic customers, including those who are fuel poor.	Customers were asked about the acceptability and affordability of Cadent’s overall plan. If they said that the plan was unacceptable, they were asked to explain their response. If they said that it was neither acceptable nor unacceptable, they were asked what they would like to see in order to find it acceptable. Customers were also asked to rate the acceptability of the outcome areas (environment, quality experience and resilience). Then, having learnt about the outcome areas, customers were asked as “informed customers” to rate the overall acceptability and affordability of the plan.	4,446	2.0	2.0	2.0	2.0
	Oct-19	Acceptability testing – focus groups with future customers	We commissioned Traverse to explore the acceptability of our plans and commitments in each of the three outcome areas (environment, quality experience and resilience) with 20 “future customers” (16-18 year olds) in 2 focus groups. Participants were supportive of our plans for the environment and resilience but questioned whether helping vulnerable customers was part our remit.	A group discussion was facilitated to discuss views on Cadent’s plans in each of the three outcome areas and participants were also asked to complete a survey to rank levels of acceptability and affordability.	20	2.0	2.0	2.0	2.0

Acceptability Testing	Oct-19	Acceptability testing – focus groups with the general population	We commissioned Traverse to explore the acceptability of our plans and commitments in each of the three outcome areas (environment, quality experience and resilience) with 79 members of the public in regional focus groups. Participants were supportive of our plans for quality experience and resilience, but no consensus was reach on our environmental plans.	A group discussion was facilitated to discuss views on Cadent’s plans in each of the three outcome areas and participants were also asked to complete a survey to rank levels of acceptability and affordability.	79	2.5	2.5	2.0	2.0
	Oct-19	Acceptability testing – fuel poor focus groups	We commissioned Traverse to explore the acceptability of our plans and commitments in each of the three outcome areas (environment, quality experience and resilience) with 35 customers in fuel poverty in regional focus groups. Overall, participants were supportive of our plans in all three areas.	A group discussion was facilitated to discuss views on Cadent’s plans in each of the three outcome areas and participants were also asked to complete a survey to rank levels of acceptability and affordability.	35	2.5	2.5	2.0	2.0
	Oct-19	Acceptability testing – interviews with CIVs	We commissioned Traverse to explore the acceptability of our plans and commitments in each of the three outcome areas (environment, quality experience and resilience) by interviewing 20 CIVs. Overall, our plans were supported, and all found the plans affordable.	Throughout the interviews the CIVS were explained the elements of the plan, asked to comment on whether they found each outcome acceptable, which particular elements were important to them, and whether they had any additional comments. They were also asked whether the new business plan was affordable.	20	3.0	3.0	2.0	2.0

Acceptability Testing	Oct-19	Phase 4 – Business interviews and surveys	We commissioned Traverse to test the acceptability and affordability of Cadent’s proposed plan amongst business customers. This consisted of an on-line / face to face survey of 504 business customers and in-depth qualitative telephone interviews with 45 business customers. This showed that the plan had achieved high levels of acceptability and affordability from a business customer perspective.	Business customers were asked about the acceptability and affordability of Cadent’s overall plan. If they said that the plan was unacceptable, they were asked to explain their response. If they said that it was neither acceptable nor unacceptable, they were asked what they would like to see in order to find it acceptable. Business customers were also asked to rate the acceptability of the outcome areas (environment, quality experience and resilience). Then, having learnt about the outcome areas, customers were asked as “informed customers” to rate the overall acceptability and affordability of the plan.	549	2.0	2.0	2.0	2.0
	Oct-19	Verve business plan consultation	We commissioned Verve to gather views on our plans to reduce our carbon footprint from 25 customers. We did this through an online forum with customers and stakeholders to discuss the key components that we shared on our EAP. This included our intentions to support our employees to make a positive difference to tackling climate change.	Participants were asked about their awareness of cadent, discussed the three outcome areas (environment, quality experience and resilience), discussed the bill impact breakdown (both at present and as a result of the plan), risks and uncertainties and innovation funding.	25	2.0	2.0	2.0	2.0
	Nov-19	Verve acceptability testing stakeholder interviews	We asked Verve to interview a small number of expert stakeholders and ask for feedback on our plan	We shared a summary of our October plan with stakeholders and asked them for feedback.	5	-	2.0	-	-

1.4. Engagement feedback and insights

Our engagement with customers and stakeholders highlighted the importance of our role in reducing fuel poverty in our networks. Many customers are clearly unaware of fuel-poverty reduction schemes, and that extending the gas network to off-grid communities can have positive impacts.

The importance of reducing fuel poverty was highlighted in our conversations and participation in deliberative workshops with 206 customers, the Customer and Social Working Group (with 12 attendees), and discussions at conferences, as a concern for Ofgem and organisations such as National Energy Action (NEA) and Citizens Advice. Furthermore, extending the gas network, particularly to rural areas, was firmly prioritised by customers at our deliberative workshop in the North West, with some divided views in North London.

However, the overall topic of ‘social obligations’, which included supporting customers in fuel poverty was ranked as the second least important overall factor with only ‘governance’ below it for 2,332 respondents in our domestic survey, with less than 30% of respondents rating it as ‘high’ importance.

Lack of access to fuel-poverty solutions

Our engagement with 12 stakeholders at the Customer and Social Working Group, the Future of Energy Conference and the 48 attendees at the London Collaboration Forum, revealed that fuel-poor customers are often unable to access fuel-poverty solutions, in many cases due to lack of awareness.

At the Customer and Social Working Group on 30 August 2018, Ofgem discussed concerns about how communities are selected for fuel-poverty support through the Fuel Poverty Network Extension Scheme, FPNES. They highlighted difficulties in ensuring that take up is from customers genuinely suffering from fuel poverty. At Ofgem’s Future of Energy Conference on 5 February 2019, they further emphasised that it is difficult for people experiencing fuel poverty to access assistance. This is because many customers do not know what FPNES stands for and may lack basic knowledge about energy bills and kWh.

During our fuel-poverty workshops, we were told that AWS, our service providers to customers in fuel poverty, are competent, knowledgeable and make the process very easy. They also said that Cadent taking responsibility for MPRN numbers was a positive step. However, we were also informed about what was not working well, including:

- Understanding who qualifies, aligning advice from suppliers and tariffs, and aligning fuel poor services with the PSR.
- Clarifying roles between GDNs and suppliers, while working with Las to understand eligibility and learn from the experience of others.
- Parties not realising there are different types of fuel poverty (e.g. due to vulnerability, illness or age).
- The issue between FPNES and ECO, as ECO does not assess whether people are in fuel poverty.
- That the current process is frustrating, disjointed and time-consuming, and that adaptations must be made to Cadent’s operations.
- For historical reasons, some people simply do not want gas.

When presenting our alternative model, which brings together schemes and funding into a centrally contracted organisation, stakeholders were largely supportive of the idea and provided the following views:

- The schemes approach would ensure that there was funding available.
- Provides the scheme manager flexibility to deliver the best outcomes.
- Centralising funds would ensure that it is more efficient.
- Additional funding around benefit checks or health referrals could be built into the model.

However, stakeholders also stated some areas of concern that would need to be addressed:

- Having a process for priority around funding to ensure equal access.
- There is a risk around having one central body, could this be delivered as part of a franchise to enable more localised delivery?

- GDNs would be using funding to deliver non-network solutions, but this could be mitigated by attaching specific outcomes or targets on social return on investment.
- The need to ensure that any scheme manager was neutral and unbiased.

We held a ‘customer and community’ focus group at our London Collaboration Forum with SGN. During this focus group, one of the priorities was raising awareness of fuel-poverty schemes, specifically in the private rented sector.

Finally, concerns about individuals lacking awareness of fuel poverty assistance were confirmed in our focus groups with non-customers. A few of the non-customers did not understand the benefits of converting to gas and felt that Cadent should make this clearer, for example, through education in schools.

Energy efficiency and fuel poverty

The Behaviouralist report jointly commissioned by Cadent and Affordable Warmth Solutions (AWS) in 2018 found that there is a tight correlation between energy performance certificate (EPC) ratings and fuel poverty. Even after accounting for several independent factors, households in G-rated properties are 46 times more likely to be fuel poor than households in A-rated properties are. Homes under a C-rating are, on average, 15% more likely to be in fuel poverty than households at or above a C-rating. This suggests that fuel-poverty support could be extended through providing improvements to EPC, rather than solely through gas connection solutions.

We discussed this issue with BEIS officials in bilateral meetings, where they highlighted concerns about energy efficiency measures, particularly concerning fuel poverty. They asked how can, and should, costly energy efficiency measures be retrofitted to prepare properties for future energy systems. There is, however, a general nervousness about putting additional burden on networks, although these companies might be better placed for structured rollouts of measures than energy suppliers are.

Role of data to improve targeting

There is a wealth of data available including from the following sources:

- Ministry of Housing, Communities and Local Government – English Housing Survey
- Department for Business, Energy and Industrial Strategy – Annual Fuel Poverty report
- NEA – Fuel Poverty in the UK report

No single source of data can be used to effectively determine whether or not a household is in fuel poverty but using the depth of data available from multiple sources, with machine learning and AI technology, the proactive targeting of those most in need is possible.

Fuel Poor Data Predictor Model

Our strategic partner, Affordable Warmth Solutions CIC (AWS), have developed the fuel-poverty identification model. The underlying identification algorithm and the software interface were built by The Sustainable Home Survey Company (SHS), CIC in partnership with The Behaviouralist.

The underlying algorithm uses publicly available data to predict household fuel-poverty status – with over 75% accuracy without having to complete costly and intrusive home visits. Furthermore, the model removes the need to enter sensitive data into other types of survey tools.

The model can accurately predict the fuel poverty gap for every home that has an EPC rating (there are approximately 16 million EPC ratings today, and this figure is growing rapidly). It also lets users identify which homes are fuel poor at a given EPC rating, which helps better direct energy efficiency measures. The model also indicates which fuel poor homes are on or off the gas grid, which helps qualify them for reduced or free gas connections. This feature is aligned with recent government emphasis on the need to simplify and improve targeting mechanisms for such subsidies.

The fuel poverty identification algorithm uses public data to predict household fuel-poverty status; it was constructed using a machine learning technique known as random forest classification. The data used in the model includes EPC, HMRC postcode-level variables, and house prices.

The algorithm contains a set of criteria that, if fulfilled, strongly suggest that a household is in fuel poverty. These criteria can be assessed for a substantial share of UK homes, as the algorithm uses large, publicly available, datasets. The criteria were developed and evaluated by combining the EPC and HMRC data with datasets that include information on actual fuel poverty status, such as the English Housing Survey (EHS).

The EHS contains approximately 23,806 households and covers the East, East Midlands, London, North East, North West, South East, South West, West Midlands, as well as Yorkshire and the Humber.

In order to test the accuracy of the model, the EHS data was split into four parts: three-quarters of the data was used to ‘train’ the algorithm, and one quarter was used to test the accuracy of the algorithm. Our evaluation shows that the algorithm produces correct predictions around 75% of the time in the EHS dataset. As the EHS covers a representative sample of English homes, we can, with a high degree of confidence, say that our model will be able to predict household fuel poverty status in England with around 75% accuracy—for any home with an EPC rating.

The model generates two main outputs:

1. A household level fuel poverty prediction.
2. The confidence level of the fuel poverty prediction (households are classified as high, medium or low confidence depending on the share of criteria fulfilled in the random forest algorithm).

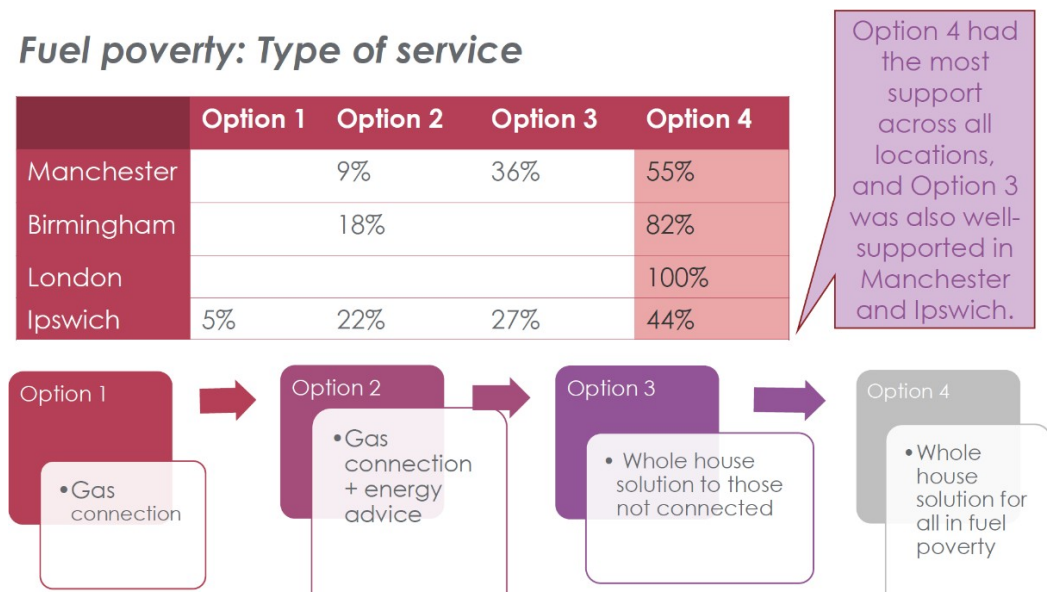
In terms of data security, the model is compliant with the General Data Protection Regulations (GDPR). The algorithm generates predictions using public data, with the predictions stored on an encrypted server, and regularly uploaded to the software platform that is being used. Only select users, such as Local Authorities and Affordable Warmth Solutions have access to the predictions.

Support for non-network solutions to tackle fuel poverty, in particular energy efficiency measures

Overall, there is strong support from stakeholders for tackling affordability and fuel poverty issues. At our fourth customer forum, this was ranked the third-highest priority (9.04%) by the 200 participants and ranked a very important priority by 85 customers in or at risk of fuel poverty at our dedicated workshops.

At the Fuel Poverty customer forums (March 2019) we presented customers with 4 options for fuel poverty. The majority of customers across all four regions selected the most ambitious option (option 4) to deliver whole house solutions for all of those in fuel poverty (including those already connected to the gas network).

Figure 2 Options testing results from March 2019 Fuel Poverty Customer forums



During our Business Options Testing (BOT) phase engagement, we presented customers with a more refined set of options, which combined options 3 and 4 above as customers highlighted that whole house solutions should not be restricted to those not connected to the gas network alone. (see section 4 for our customer testing approach and results).

At Ofgem's customer and social working group, NEA and Citizens Advice (CA) were supportive of our view that networks should not be restricted to tackle fuel poverty only through gas connections, and non-network solutions should be allowed if this delivers better outcomes. GDNs were supportive of our proposal for a combined package to tackle fuel poverty i.e. a flexible volume driver supported by a financial incentive based on social return on investment and an element of the stakeholder incentive to encourage linking up of funding sources. The 12 stakeholders present at our fuel poverty workshops also suggested that connections might not be the solution in all situations, sometimes something like advice on income, debt, benefits or efficiency would be better.

In their responses to Ofgem's Sector Specific Methodology Consultation in March 2019, both NEA and CA were supportive of gas networks not being restricted in addressing fuel poverty through gas connections alone. NEA's favoured approach would be to fund energy efficiency improvements through the price control, giving GDN's more responsibility to improve the energy efficiency of houses as they gain connections, or, be given some flexibility to deliver alternative actions which lead to equivalent heat cost savings which would contribute towards GDN targets for fuel poor connections. CA stated that a gas connection is just one of many things that can help a household out of fuel poverty. CA therefore suggest making energy advice and energy efficiency measures part of the FPNES.

The 16 stakeholders working with or in the interests of customers in vulnerable circumstances and customers who were interviewed about our Guaranteed Standards of Performance (GSOPs) also noted that these were critical in providing a safety net, and that the area for improvement is in customer awareness and coverage of the PSR and awareness of the GSOPs.

During discussions with BEIS officials about energy efficiency, particularly in relation to fuel poor households, they asked how can and should costly energy efficiency measures be retrofitted to prepare properties for future energy systems. There is a general nervousness about putting additional burden on networks though there is an appreciation that networks are perhaps better placed for a more structured roll-out of measures than energy suppliers.

BEIS Fuel Poverty Statistics 2018 (data for 2016) show that households with insulated cavity walls are least likely to be in fuel poverty (7.6% of households with an average fuel-poverty gap of £220). 21.5% of all households living in properties with the lowest energy ratings (E, F or G) are fuel poor – they make up 39.7% of all fuel poor households. The highest average fuel-poverty gap is in G-rated properties. The average gap of around £1482 is around 8 times larger than the average gap for A/B/C rates properties (£185), over 7 times higher than for D rated properties (£207) and around four times higher than the average fuel-poverty gap for all fuel poor households (£326).

The December 2016 Bonfield Review: Each Home Counts notes that living in a cold home can have a series of detrimental effects on physical and mental health and has been linked with excess winter deaths. It notes that domestic buildings are responsible for approximately 23% of total UK carbon emissions and that estimates that two-thirds of existing properties will still be standing in 2050. It also notes that it is estimated that about 65% of English homes could benefit from energy efficiency improvements. About 5.5 million homes in GB lack cavity wall insulation and 92% of solid-walled homes are uninsulated. It also noted that although 60% of householders were aware of EPCs, only 8% knew their actual property rating.

AgilityEco, in their response³ to Ofgem's RIIO-2 consultation, supported a broader approach for networks to address fuel poverty.

They called for a coordinated whole-home approach:

³ <https://www.agilityeco.co.uk/blog/how-riio-2-can-be-strengthened-ensure-network-companies-take-moments-opportunity-protect>

“We believe the GDNs through the price control mechanism, should match fund schemes such as ECO and other national and local funding (which falls substantially short of the installation cost) to help fuel poor and vulnerable householders with first time central heating installation costs. In addition, by integrating energy efficiency and related support at the point of connection, it allows a whole house approach solution and significant work to be done in one event, savings on costs to re-engage at a later time.”

And for GDNs to play a greater role in achieving longer term outcomes:

“We believe GDNs have a role to play to provide a more holistic support service to achieve long-term outcomes. This could include triaging people’s needs through home visits for the provision of energy saving advice, maximising income and wider essential welfare support.”

Responsibility of Cadent and payment for services/measures

The Cadent Customer Forum on fuel poverty with 100 participants across four locations found that customers do not automatically think that addressing fuel poverty is Cadent’s responsibility. They asked why Cadent was responsible and instead pointed to the government and individuals as responsible actors. However, some participants thought Cadent should take action and redirect profits towards helping people within their network.

When considering how Cadent should act if it were to do so, across all locations, offering whole house solutions (could include insulation or appliance replacement) to those in fuel poverty including those already connected received the most support. Offering whole house solutions to those not already connected to the network was also well-supported in Manchester and Ipswich. Most customers believed that offering whole house solutions to all in fuel poverty, including those already connected would be a holistic solution, and if Cadent was choosing to act on fuel poverty, their actions should be high quality. Customers who thought that offering a connection, energy advice or a whole house solution to those not connected to the network were concerned that home owners might try to cheat the system. Overall there was a strong preference across all locations for offering whole house solutions to all in fuel poverty, including those already connected.

Participants also pushed back on footing the whole bill as they thought some money should come from Cadent profits. Participants also suggested partnering with a well-regarded charity to implement the fuel-poverty programme to improve Cadent’s accountability. Several groups at the workshop suggested that Cadent should run a programme for fuel-poverty awareness and education.

Some 31 participants at the ESL and non-English speakers workshops ranked ‘Tackling affordability and fuel poverty’ highly and Bengali participants highlighting the importance of helping customers that cannot afford their bills, some commented that helping communities and charities is one way to achieve this. Others felt that this is not a priority though because it should not be Cadent’s responsibility.

This sentiment was echoed at the future generations workshop. Although the same problem was ranked highly, noting the potentially fatal consequences of fuel-poverty, some thought that this was an issue for the government.

Improving the uptake of energy efficiency measures

The Bonfield Review made a number of recommendations for improving the uptake of energy efficiency measures in homes. These included:

- Making more of opportunities for engaging customers (including an Information Hub, Data Warehouse).
- Better use of property assessments and improved access to EPC data (and integration of assessment information into the Data Warehouse).
- Simpler sector branding (including a new quality mark for the energy efficiency and renewable energy sector).
- A new Customer Charter and Code of Conduct to improve selling practices and provide a single point of contact for redress and guarantees.

- Codes of Practice to improve standards and skills.
- Robust monitoring in the Codes of Practice.
- A Strategic Governance Board to assess inclusion and integration of new technologies.

The value of fuel poverty support and willingness to pay (WTP)

In their January 2019 report for Cadent (the benefits of extending the gas network to off-grid communities) NERA estimated the value of gas network extensions including the private benefit to customers that comes from connecting to the gas grid and reducing their fuel bills and the reduction in emissions (CO₂ and local pollutants) that comes from switching to natural gas (or future green gas alternatives like hydrogen) from some other fuels. They found that the value of providing network extensions is higher in rural areas (around 100% higher in 2021) because they are more likely to be using the most expensive and environmentally detrimental solid/liquid fuels in the absence of gas. The value of providing a network extension also trends upwards over time due to growth in uptake. From 2030 onwards, the value of the gas network extension depends on the evolution of the mix of heating technologies. The NPV of a network extension provided in 2021 in the average scenario was estimated to be £1,464 per household in urban areas and £2,411 per household in rural areas.

NERA and Traverse also conducted a stated preference survey to estimate customers' willingness to pay for improvements in the service provided by Cadent – covering domestic and non-domestic customers. WTP estimates for individual services were scaled based on the more conservative contingent valuation approach. The scaled domestic WTP for additional household connections in fuel poverty to the network per year (compared to 4,000) was £1.64, £3.56 and £4.47 for 5,000, 6,500 and 7,500 properties respectively. For non-domestic customers, the scaled WTP was zero, the individual estimate of £5.80 provides an upper bound valuation for every additional 1,000 household connections in fuel poverty to the network.

NERA and Traverse were commissioned by Cadent to “triangulate” the willingness to pay evidence prepared. The low and central-case valuation for domestic customers for every 1,000 properties connected per customer per year (across all regions) was £1.64 for a change in service level from 4,000 to 5,000 properties connected per year, £1.28 for a change in service level from 5,000 to 6,500 properties connected per year, and £0.91 for a change in service level from 6,500 to 7,500 properties connected per year. Across all service levels, the high-case valuation was £2.22. For non-domestic customers, across all service levels, the low case valuation was zero and the central and high case valuation was £5.80.

Further insights into stated preference by NERA and Traverse based on over 3,000 responses estimated customers' willingness to pay for improvements in the service provided by Cadent, covering both domestic and non-domestic customers. WTP estimates for individual services were scaled based on the more conservative contingent valuation approach. The scaled domestic WTP for measures to address fuel poverty were zero for offering connection and energy efficiency advice to those off the network, £2.59 for offering connection and in-house energy efficiency measures to those off the network and £3.67 for providing whole-house solutions to address fuel poverty for those on or off the network. For non-domestic customers, the scaled WTP was zero, but there was evidence of WTP for providing whole-house solutions to address fuel poverty for those on or off the network of £12.05 which provides an upper bound valuation.

NERA and Traverse triangulated these results. The valuation assigned to different service levels per customer per year, on average across all regions was as follows for the three service levels:

- **(0-1): Move from current minimum standards (offer connections to those off the network) to also offering energy efficiency advice to those off the network** – For domestic customers, the valuation was zero. For non-domestic customers, the low and central case valuation was zero, whilst the high case was £6.60
- **(1-2): Move from offering connection and energy efficiency advice to those off the network to also offering energy efficiency measures** – For domestic customers, the low and central-case valuation was £2.11, and the high-case valuation was £3.66. For non-domestic customers, the low and central case valuation was zero, whilst the high case was £6.22
- **(2-3): Move from offering connection and energy efficiency measures to those off the network to providing whole house solutions to address fuel poverty for those on or off the network** – For domestic customers, the low and central-case valuation was £1.07, and the high case valuation was

£2.61. For non-domestic customers, the low case valuation was zero, whilst the central and high case was £5.83

There were some regional variations with domestic WTP higher than average in North London, North West England and the East of England, and lower than average in the West Midlands. For non-domestic customers there were no variations across regions.

Summary of insights

We have gained a number of insights from our historic experience and our targeted engagement for RIIO-2.

There is a clear customer need to approach fuel poverty in different ways and not purely rely on network solutions, e.g. providing (subsidised) gas connections to households off the grid. Energy efficiency measures are a clear priority that needs to be addressed and implemented as well as financed through new ways of working. Whole-house solutions, in particular, are considered the most effective way. Cadent therefore needs to do more on energy efficiency improvements, for example by leveraging its networks, existing partnerships in the communities we serve, as well as a fair and cost-effective delivery e.g. through better use of data.

The table below summarises the insights received and how we address these in our proposals across our RIIO-2 business plan.

Figure 3 Summary of insights

Feedback/Insight	How we have addressed this
<p>Customers do not automatically think that addressing fuel poverty is Cadent’s responsibility (including some future customers).</p>	<p>Gas is the most economic heating source and with 1.5 million customers experiencing fuel poverty across our networks, we have a unique position in the industry in that we have a long term permanent relationship with households in our network.</p> <p>We recognise that fuel poverty is a national issue and networks rely on industry support from government, expert stakeholders and delivery partners to make a positive difference for customers experiencing fuel poverty. Therefore, we are trialling a central model to bring together funding from across the industry to assist customers living in fuel poverty.</p>
<p>Customers and stakeholders generally confirmed our views on the importance of reducing fuel poverty in our networks.</p>	<p>We are pleased to hear that our customers and stakeholders are as passionate as we are about tackling fuel poverty. Our commitments for RIIO-2 will confirm how we want to make a step change for customers both at local, household level and at industry level to bring further benefits in the long term.</p>
<p>Most customers believe that offering whole-house solutions to all in fuel poverty, including those already connected would be a holistic solution. And, if Cadent was choosing to act on fuel poverty, their actions should be high quality. This was supported by results from our willingness to pay valuation studies.</p> <p>Some customers pushed back on footing the whole bill for delivering whole house fuel poverty solutions, as they thought some money should come from Cadent profits.</p>	<p>We firmly believe that offering a range of interventions, tailored to the needs of the household and the customer can make a bigger impact on taking a house or a customer out of fuel poverty, compared to only having the option of offering a fuel poor gas connection.</p> <p>We will be taking the customer willingness to pay into consideration when developing our commitments and ensuring that our offerings deliver value for money for customers.</p> <p>For RIIO-2, we plan to lift more than 36,000 customers out of fuel poverty. This will be funded by a ‘use-it-or-lose-it’ allowance where any unused funding will be returned to customers and we will ensure that any commitments we make in the area of fuel poverty are beneficial to the customer and economically efficient.</p>

	<p>We also plan to deliver a number of social initiatives, including those which support customers in fuel poverty through our Cadent Foundation community fund. For more information on how we will be investing over 1% of our profits each year into this, please see Appendix '07.05.00 Trust Charter'.</p>
<p>Fuel poverty support could be extended through providing improvements to household EPCs, rather than solely through gas connections.</p>	<p>We have been exploring the link between EPC ratings and fuel poverty with our partner, The Behaviouralist. The findings have shown strong links between EPC ratings and households in fuel poverty, therefore we will be using this data to inform our targeting of households for fuel poverty interventions for RIIO-2. We fully support the insight that whole-house solutions could deliver greater benefits than a fuel poor gas connection alone and this will form part of our service offering for RIIO-2.</p>
<p>Extending the gas network, particularly to rural areas, was firmly prioritised by customers at our deliberative workshop in the North West, with some divided views in North London.</p>	<p>Again, we are pleased to hear that customers are supportive of the existing FPNES. Regional factors are taken into consideration when determining the suitability of a fuel poor connection. Sometimes it may not be economical for customers in rural areas to be given a gas connection due to the cost required to build new infrastructure. Often alternative solutions would be more economical for these customers. However, we are focussed on targeting those most in need in RIIO-2, using a range of data sources to help us best target our efforts.</p>
<p>No single source of data can be used to effectively determine whether or not a household is in fuel poverty, a depth of data from multiple sources is required.</p>	<p>We very much support this insight and have already taken steps in RIIO-1 to enhance the sources of data we use to target those in fuel poverty who really need the support. An example of this is our research with the Behaviouralist. All our findings will help to further shape our commitment to improve our use of data in RIIO-2.</p>
<p>Stakeholders support a broader approach to addressing fuel poverty, including in-house interventions and providing energy saving and income maximisation advice</p>	<p>We recognise that gas networks can play a greater role in tackling and reducing fuel poverty and therefore in our proposals we go beyond the current scope of the FPNES and consider in house interventions and the provision of energy and income advice.</p>
<p>During fuel poverty workshops with expert stakeholders, we were informed about what was not working well with the current fuel poverty scheme including:</p> <ul style="list-style-type: none"> • Understanding who qualifies, aligning advice from suppliers and tariffs, and aligning fuel poor services with the PSR • Clarifying roles between GDNs and suppliers, while working with Local Authorities to understand eligibility and learn from the experience of others • Parties not realising that there are different types of fuel poverty (e.g. due to vulnerability, illness or age) • The issue between FPNES and the Energy Company Obligation (ECO), as ECO does not assess whether people are in fuel poverty • The current process is frustrating, disjointed and time-consuming, and that 	<p>We recognise that there is work to do to enhance the range of data used to inform decision making to ensure that customers who need support the most are first in-line to get it. This will be one of our commitments for RIIO-2.</p> <p>Our vulnerability strategy brings together PSR awareness, tackling fuel poverty, building CO awareness and going beyond to ensure a customer is never left vulnerable without gas. This way we are able to identify the needs of customers, using PSR data and tailor services accordingly, including if a customer would benefit from a fuel poor gas connection.</p> <p>Clarity of roles across the industry could be made clearer for customers in relation to the ECO and fuel poverty schemes. One of the drivers behind us wanting to explore trialling a new, central, single body that coordinates funding and fuel poverty schemes in alignment with government policy is to overcome the current challenges around industry roles.</p>

<p>adaptations must be made to Cadent's operations</p>	<p>We take on-board the feedback that working with us/our delivery partners can be frustrating and time-consuming. This is something we want to improve on and will be making specific commitments on in RIIO-2. Please see Appendix 07.03.01 'Establishing and raising the bar for all our customer and stakeholder experiences' for more information.</p>
<p>Fuel poor customers are often unable to access fuel poverty solutions, in many cases due to lack of awareness.</p>	<p>We work closely with our delivery partner, AWS, to raise awareness of the FPNES with industry and local stakeholders. Sometimes it can be challenging to reach those customers who may be harder to reach, but as part of our RIIO-2 commitments we will be using new data techniques to better target those who are most in need. We are also committing to making our services more accessible and inclusive to all in RIIO-2. Please see Appendix 07.03.05 'Measuring and enhancing accessibility and inclusivity' for more information.</p>
<p>Ofgem highlighted difficulties in ensuring that the take up (for the FPNES) is from customers genuinely suffering from fuel poverty.</p>	<p>Although the FPNES has benefitted customers who have been able to access it, there are challenges around data and ensuring that the people who need it most benefit from the scheme. For RIIO-2 we want to continue to innovate and use data in developing methods to better target those that should qualify for support.</p>
<p>BEIS have a general nervousness about putting additional burden on networks (to provide energy efficiency measures), although these companies might be better placed for structured rollouts of measures than energy suppliers are.</p>	<p>Experience from our delivery partner AWS suggests that in many cases, alternative interventions (other than gas connections) may provide a more effective and long-term solution to customers and households experiencing fuel poverty. Networks are well placed with their experience of the FPNES and working with delivery partners to expand their role and make a real difference for customers in fuel poverty in RIIO-2. Our commitments will reflect the ambition we have in this area.</p>
<p>At Ofgem's Customer and Social Working Group, NEA and Citizens Advice were supportive of our view that networks should not be restricted to tackling fuel poverty only through gas connections, and non-network solutions should be allowed if this delivers better outcomes. However, stakeholders highlighted the importance of ensuring the measures installed are delivered efficiently and to a high standard.</p>	<p>Continuing to deliver fuel poor gas connections will still form the basis of our offering for RIIO-2, however based on customer and stakeholder feedback, industry research and findings from our own studies, there are alternative interventions that could deliver greater benefits in lifting customers and households out of fuel poverty. We are delighted that respected industry stakeholders are supportive of us exploring alternative interventions for customers in fuel poverty. We will continue to work with our stakeholders, leveraging their expertise, to shape our offerings to tackling fuel poverty and affordability in RIIO-2.</p> <p>To ensure the measures installed are delivered efficiently and to a high standard we will build on our network of trusted strategic partners, including Affordable Warmth Solutions, who have years of experience in delivering fuel poor interventions including in-house interventions. We will also undertake assurance activities to ensure installations are delivered to a high quality standard so that customers are able to benefit and live in warmth and comfort.</p>

<p>Stakeholders had some areas of concern that would need to be addressed in an alternative model involving a centrally run organisation:</p> <ul style="list-style-type: none"> • Having a process for priority around funding to equal access • Risk around one central body – could it be delivered as part of a franchise to enable more localised delivery? • The need to ensure that any scheme manager was neutral and unbiased 	<p>We are already trialling an approach to a new funding model in Staffordshire in our West Midlands network. By undertaking a trial, we want to learn and understand what works and what doesn't and take on-board any learning before sharing our findings from the trial with customers and stakeholders. The concerns raised by stakeholders during our RIIO-2 engagement will be fed into the trial.</p>
<p>Willingness to pay valuation studies indicate that domestic customers value an increase in gas network extensions, in house interventions and energy efficiency advice. There was some regional variation with customers in West Midlands placing a lower value than customers in our other networks.</p>	<p>Willingness to pay results support our feedback from our qualitative engagement with customers and expert stakeholders to take a comprehensive approach to reducing fuel poverty. Therefore our proposals explore activities across a range of tailored interventions including fuel poor connections, in-house interventions and income and energy efficiency advice.</p> <p>Although customers in West Midlands placed a lower value than average on undertaking activities to reduce fuel poverty, the values remain positive and our expert stakeholders have advised us not to reduce our ambitions in a network which faces the highest levels of fuel poverty across the country. This also aligns with our vision to set standards that all of our customers love.</p>

2. Assessing the measurement options



2.1. How is it currently measured

The FPNES was introduced by Ofgem in GDPCR1 and continued in RIIO-1. The FPNES aims to support households in fuel poverty by providing subsidised gas connections that allow those currently off the gas grid to gain access to mains gas as an alternative lower-cost source of fuel. During RIIO-1, each company has an obligation to fulfil a set number of connections under the FPNES.

We are committed to delivering 36,616 fuel poor network extensions over RIIO-1.

Table 6 FPNES to be delivered in RIIO-1

Network	Fuel poor gas connections target
East of England	12,046
North London	2,880
North West	13,330
West Midlands	8,360
Cadent total	36,616

Performance will be measured at the end of the RIIO-1 period by Ofgem. The measure and criteria for the FPNES have been reviewed by Ofgem during the RIIO-1 period and adjusted accordingly to ensure it best meets the needs of fuel poor customers.

Strengths – GDNs continuing to support the effort to tackle fuel poverty in RIIO-1 will see over 77,000 fuel poor customers connected to the gas network. Gas is a cheaper, more reliable and familiar fuel for customers. Over the RIIO-1 period, we have further developed our understanding of fuel poverty and vulnerability across our regions via a number of data sources, feeding this back into our business to enhance the services we offer.

Weaknesses – The GDN role is limited to providing gas connections only where alternative interventions may provide a more effective solution to customers experiencing fuel poverty. The current measure of delivering gas connections does not future proof homes that move in/out of fuel poverty, and also does not take into account the circa. 600,000 homes connected to the gas network suffering fuel poverty.

There is inconsistency across government-led energy efficiency and fuel poverty schemes in England, Wales and Scotland. Each defines fuel poverty differently and levels of funding vary. These inconsistencies mean that customers are receiving different experiences across regions.

We currently do not measure and/or carry out the following activities:

- Fuel poor in house interventions (e.g. boiler installation)
- Household energy and income advice

2.2. Assessing good practice

Government strategies and funding

While they each define fuel poverty differently, the respective governments of England, Scotland and Wales have set out strategies that recognise the importance of addressing fuel poverty, and that improving domestic fuel efficiency and forming partnerships is an essential part of this.

There are different fuel-poverty funding strategies for:

- **England** – focuses on improving the energy efficiency standards of fuel poor homes
- **Scotland** – focuses on investment to make homes warmer, greener and more efficient
- **Wales** – support and funding is focused on those most in need, providing high quality, well-coordinated advice and support services

Together with in-house energy efficiency measures which are:

- **The Energy Company Obligation (ECO)**
- **The Warm Homes Discount**

Fuel-Poverty Strategy for England

The Government has identified energy efficiency as the best long-term solution to alleviating fuel poverty, and its strategy therefore focuses on improving the energy efficiency standards of fuel poor homes.

In 2014, the Government introduced, in legislation, a fuel-poverty⁴ target for England to improve as many fuel poor homes as is reasonably practicable to a minimum energy efficiency rating of Band C, by the end of 2030. The 2015 fuel-poverty strategy, “Cutting the Cost of Keeping Warm,” set out the Government’s plan to meet this target for England and outlined three key principles:

1. **Prioritisation of the most severely fuel poor** (also known as the ‘Worst First’ principle) - Government aims to help those in the worst homes first
2. **Supporting the fuel poor with cost-effective policies** - Government prioritises approaches to fuel poverty which provide the best value for money for taxpayer funds
3. **Reflecting vulnerability in policy decisions** - recognises that Government should not focus just on the home. When designing policy, it is important to be mindful of the people living in them and that the impact of living in a cold home will vary for different household types

Since 2015, minimum energy efficiency standards for landlords have been set to tackle the least energy-efficient private rental properties in England and Wales – those rated F or G must improve to EPC band E, subject to a cost cap of £3,500 per property.

In July 2019, BEIS published a consultation on the fuel-poverty strategy for England⁵. It proposes to retain the statutory fuel-poverty target, but is considering the following refinements to its strategy:

- **Metric:** Update the way in which fuel poverty is measured to better track progress against the statutory fuel-poverty target⁶.
- **Worst First principle:** Currently, fuel poor households receiving support from the Energy Company Obligation may only receive one type of support. This principle could be updated so that a whole house retrofit approach can be adopted where appropriate.
- **Vulnerability:** The government proposes to clarify that the impact of policies on the health and wellbeing of people on very low incomes will be considered, even when they live in a reasonably energy-efficient home.
- **Sustainability principle:** A new principle would ensure that fuel-poverty actions are complementary to other Government priorities such as decarbonisation of heat.

⁴ Fuel poverty is defined in the Warm Homes and Energy Conservation Act 2000 as “a person [who] is a member of a household living on a lower income in a home which cannot be kept warm at reasonable cost.”

⁵ [Consultation on the fuel poverty strategy for England, BEIS, July 2019](#)

⁶ The 2015 strategy adopted the Low Income High Costs (LIHC) indicator of fuel poverty where a household is considered to be fuel poor if they have required fuel costs that are above average; and were they to spend that amount, their disposable income would be below the poverty line. However, the latest consultation is proposing to move away from this relative measure to a new absolute measure, so that it is clearer whether the action the government is taking is having sufficient impact. The new Low Income Low Energy Efficiency (LILEE) measure would class a household as fuel poor if: they are living in a property with an energy efficiency rating of Band D, E, F or G; and their disposable income (after housing costs and energy needs) is below the poverty line.

Fuel Poverty Strategy for Scotland

Scotland's draft Fuel Poverty Strategy⁷ contains a number of actions that the Scottish Government will take to deliver the target of no more than 5% of Scottish households in fuel poverty by 2040. The key actions to achieve this include the following:

- A new definition of fuel poverty focussing on low-income households, thus increasing the number of eligible households⁸ and reviewing eligibility to schemes based on the new definition.
- Focus on energy efficiency, **through Energy Efficient Scotland, to invest in making homes warmer, greener and more efficient so that fuel poor** homes reach EPC C by 2030 and EPC B by 2040, where technically feasible, cost-effective and affordable, and:
 - Continue to grant fund low-income households to install energy efficiency measures.
 - Introduce new standards, for social housing and the private sector.
 - Encourage home owners to improve the energy efficiency of their homes and support local authorities to deliver area-based schemes.
 - Provide advice and support to households on ways to save energy and improve access to affordable energy⁹.

The Scottish Government also proposes to create low carbon jobs to maximise incomes and establish a public energy company to help tackle fuel poverty and promote economic development.

Fuel Poverty Strategy for Wales

The Fuel Poverty Strategy for Wales aims to reduce the impact of fuel poverty on households and, and as far as reasonably possible, eradicate fuel poverty¹⁰. The strategy was published in 2010¹¹ and states that it will ensure that: support and funding is focussed on those most in need. The Welsh Assembly Government plays a proactive role in influencing other decision makers and works in partnership with key stakeholders and agencies, and energy performance programmes will ensure economic benefits for Wales and complement programmes funded from other sources.

The strategy states that it will provide:

- High quality, well-co-ordinated advice and support services to ensure that all householders in Wales can access help to reduce their fuel bills, maximise their income, improve the energy performance of their homes and reduce their risk of becoming fuel poor.
- A demand-led All-Wales Fuel-poverty programme (subsequently named Nest), complemented by area-based fuel-poverty programmes targeted at those householders most in need and living in the most energy inefficient homes.

The strategy announced the formation of a two-way referral network centred around the warm homes Nest scheme, that will ensure that whichever organisation or service a householder accesses first, they can be

⁷ [Draft Fuel Poverty Strategy for Scotland 2018](#)

⁸ The Fuel Poverty (Target, Definition and Strategy) (Scotland) Bill passed Scottish Parliament on 11 June 2019. This Bill sought to change the definition of fuel poverty to a household that once it has paid for its housing, needs more than 10% of its remaining income to pay for its energy needs and the household's remaining income (net of fuel and childcare) is insufficient to maintain an acceptable standard of living.

⁹ The Scottish Government funds Home Energy Scotland (HES) and Resource Efficient Scotland who provide free, impartial and expert advice to property owners on energy saving behaviours. HES is the only referral route for households experiencing fuel poverty, to the national energy efficiency schemes. HES partners with organisations representing interests in health, mental health, early years and carers. As a result, many more locally based organisations now have clear referral pathways to access support to tackle fuel poverty.

¹⁰ Fuel poverty is defined as having to spend more than 10 per cent of income (including housing benefit) on all household fuel use to maintain a satisfactory heating regime.

¹¹ [Fuel Poverty Strategy 2010, Welsh Assembly Government](#)

referred to the full range of advice and support services the householder requires to meet their particular needs. The Nest scheme helps householders to improve the energy performance of their homes and reduce the impact of fuel bills. The scheme expects to help up to 15,000 households each year with energy advice and support on ways to save energy and make homes more energy efficient, energy tariffs and benefit entitlement.

Funding for in-house energy efficiency measures

Energy Company Obligation (ECO)

The ECO is a government energy efficiency scheme in Great Britain to help reduce carbon emissions and tackle fuel poverty. The scheme began in April 2013, and over time it has been amended. The latest scheme, which launched in late 2018, runs to March 2022 and is funded via energy bills.

Under the Home Heating Cost Reduction Obligation (HHCRO), obligated suppliers must promote measures that improve the ability of low income, fuel poor and vulnerable households to heat their homes. This includes actions that result in heating savings, such as the replacement of a broken heating system or the upgrade of an inefficient heating system. People on certain benefits or who have income under a certain threshold can qualify for Affordable Warmth grants, which support households with in-home solutions such as an efficient boiler, loft insulation or wall cavity insulations.

Warm Homes Discount (WHD)

The Warm Home Discount (WHD) is a government-led scheme, regulated by Ofgem, that offers extra support to customers who may be struggling to afford their energy. The WHD has been extended until at least 2021, providing over two million low income and vulnerable consumers in Great Britain with a £140 rebate off their energy bill each winter.

England, Scotland, and Wales all have different regimes to fund in-house energy efficiency measures.

Additional funding provided by the Scottish Government

The devolved government in Scotland has introduced a number of schemes which provide households funding for in-home energy efficiency measures. This falls under the Home Energy Efficiency Programmes for Scotland (HEEPS) scheme which consists of:

- Area-based schemes run by local authorities - the Scottish Government funds local authorities to develop and deliver energy efficiency programmes in areas with high levels of fuel poverty.
- Warmer Homes Scotland Scheme - a nationwide fuel poverty scheme, offering fully or heavily subsidised energy efficiency measures.
- Cashback scheme – including a maximum cashback amount of £3,750.
- Home Energy Scotland Loan scheme - provides interest-free loans up to the value of £15,000 for energy efficiency measures.
- Equity Loan Scheme – pilot allows homeowners to borrow against the value of their property to fund energy efficiency measures - there are no ongoing repayments - the loan is paid when the property is sold.
- Loan scheme for Registered Social Landlords.
- Free and impartial energy efficiency advice and support service to all householders in Scotland.

To ensure value for money, Warmer Homes Scotland Scheme (WHS), delivered by Warmworks leverages funding from sources other than the core Scottish Government budget in order to increase the number of households that can benefit. Scottish and Southern Electricity Networks' 'Enabling Funding' was set up in November 2016 to help customers in SSEN-supplied areas who require additional work that is not included in the Warmer Homes Scotland grant to be carried out in preparation for their installation.

Warmworks also continues to work with Scottish Gas Networks to ensure households can access the 'Help to Heat' scheme, which offers free or discounted connections to the gas network for households that are in fuel poverty or at risk of living in fuel poverty.

Additional funding provided by the Welsh Government

The warm homes Nest scheme expects to help 4,000 households each year by improving the energy efficiency of privately owned and privately rented properties for those who meet the means-tested eligibility criteria and deliver energy efficiency measures which could include: central heating, new boilers, loft or cavity wall insulation, external wall insulation, renewable technologies, biomass systems, and air source heat pump systems.

A parallel, area-based approach to tackling fuel poverty (the Arbed programme) has been set up to deliver social, environmental and economic benefits through the improvement of household energy performance focussed on whole communities or streets to drive economies of scale and economic benefits.

Additional funding provided for England

In July 2019, the BEIS Committee of the House of Commons noted that it had¹²:

“found a profound disparity between the public money invested in residential energy efficiency schemes per capita in England compared to that in the devolved nations. While there is a clear and substantial investment gap that needs addressing, we are concerned that the Government has set targets for energy efficiency without having a clear grasp of how much public investment is required to meet them”.

It further noted that:

“The Energy Company Obligation (ECO), a supplier-led and funded scheme that currently targets low-income, vulnerable and fuel poor households, has become the Government’s key mechanism for alleviating fuel poverty through energy efficiency. We found that ECO’s lack of funding, its focus on low cost rather than need, and the requirement for top-up funds from recipients, make it unsuitable as the Government’s only fuel-poverty scheme. Following the example of the devolved nations, we recommend three tiers of funding consisting of ECO, centrally funded local authority schemes, and a further national funding safety net, to provide a comprehensive strategy for energy efficiency for fuel poor households.”

The Committee did note that several local bodies in England are implementing successful local energy efficiency schemes from their existing resources. For example:

- The Greater London Authority has a £2.5 million Warmer Homes programme, which targets fuel poor Londoners
- Plymouth City Council helped to establish Plymouth Energy Community (PEC) - a community benefit society which aims to address fuel poverty, energy bills, and carbon emissions
- Liverpool City Council has developed a Healthy Homes team to help the fuel poor, offering a range of services including advice on available grants, switching suppliers, benefits checks, emergency fuel payments, boiler safety checks and repairs, and free energy efficiency measures

In order for a household to be eligible for a fuel poor gas connection, there must be sufficient funding for in-house measures such as boiler installation and central heating. All our networks are based in England and therefore the lack of funding for in-house measures makes it increasingly challenging for us to address fuel poverty through gas connections alone.

Income and energy advice project - Partnership between Cadent, AWS and Citizens Advice Coventry (CAC)

Citizens Advice (Coventry), Cadent and Affordable Warmth Solutions undertook a project to provide fuel poor households with access to advice and support around the key fuel poverty indicators. The project was highly successful and generated over £450,000 in financial savings for over 500 households and provided a seamless service for those identified as eligible for a free gas boiler through the Fuel Poor Voucher scheme. Using a holistic approach, an AWS adviser identified additional avenues that could decrease a household’s energy bill and increase its income, ensuring maximum benefits for the customer. Client satisfaction surveys provided 100% satisfaction scores consistently across the life of the project.

¹² [Energy efficiency: building towards net zero, Business, Energy and Industrial Strategy Committee, House of Commons, July 2019](#)

The main issue to be addressed in any future project was around increasing client engagement with the project and providing more intensive follow up support to those who faced barriers to acting upon the advice given.

Summary

Our goal is to align our outcomes with the government’s fuel poor strategy. In order for a household to be eligible for a fuel poor gas connection, there must be sufficient funding for in-house measures e.g. boiler installation or central heating. All our networks are based in England and therefore the lack of funding for in-house measures makes it increasingly challenging for us to address fuel poverty through gas connections alone.

For future fuel poor obligations, it is recommended that the provision of new gas connections should be part of a broader GDN obligation to improve the energy efficiency of the home. This broader obligation, aligned to the Government’s Fuel Poverty Strategy, should be conditional upon an appropriate level of funds being available to support us in undertaking a more holistic and flexible approach to addressing the issues of fuel poverty.

2.3. What options have we considered

Defining objectives

Reflecting on the insights we have received from our customers, stakeholders, policy makers, our strategic partner AWS and best practice across the industry including the various government strategies, we have defined the objectives the fuel poor output measure should deliver in RIIO-2.

Table 7 Defining the objectives

Objective	Business insights	Customer and stakeholder insight/feedback	Best practice	Strategy/Policy
Deliver the most effective solutions to lift households out of fuel poverty	We have recognised that a connection alone is not always the most effective solution	Customers and stakeholders inform us that we should deliver the right outcomes for households		Government strategy sets obligations to improve the energy efficiency of homes
Enable and drive GDNs to be ambitious in tackling fuel poverty		Customers and stakeholders want us to be ambitious in tackling fuel poverty		Government strategy seeks to radically address fuel poverty
Improve the way in which we target customers and communities living in fuel poverty	We have developed mapping tools using available data to better target fuel poverty	Key stakeholders believe GDNs should improve targeting		
Join up all available funding to address fuel poverty			Home Energy Efficiency Programmes for Scotland enable joining up of funds to maximise impact	
Encourage collaboration and sharing of best practice		Customers and stakeholders believe the industry should work together to address fuel poverty		Government strategy emphasises partnerships and a cross-society approach
Clear accountability and targets to ensure effective delivery		Customers and stakeholders believe roles and responsibilities between companies should be clear to allow delivery of outcomes		

Table 8 Options we considered

Option 1: Maintain status quo – Only available to households not on the Gas Network	
<ul style="list-style-type: none"> • GDN role limited to providing gas connections only – GDN to outline bespoke targets for RIIO-2 FPNES connections, including cost assumptions and evidence to support costs. • Fixed allowance with penalty regime – If target volumes are not delivered, GDNs must return the funding for the short fall and face a penalty. • Link scheme eligibility criteria to other government energy efficiency and fuel poverty schemes – GDNs incentivised to ensure that when a household receives an FPNES connection, the property also achieves a high level of energy efficiency (e.g. Improving the EPC to a Band C where practical). • Targeting – GDNs to evidence how they have ensured the connections made through the scheme have been received by consumers who are in fuel poverty. 	
Assessing the merits and drawbacks	
Pros	Cons
<ul style="list-style-type: none"> • Clear responsibility, no concerns about gas networks being funded for non-gas solutions • Fixed and stable regime for planning • Disincentive to miss targets • Addresses effectiveness of fuel-poor connections by measuring EPC movement 	<ul style="list-style-type: none"> • Encourages gas connections even if other solutions deliver better customer outcomes • Does not necessarily lift customers out of fuel poverty • Restrictive regime – does not allow for changing environment/customer needs • Restricts solutions to households with EPC ratings • Challenges in evidencing that fuel poverty has been addressed via a connection
Potential unintended consequences	
<ul style="list-style-type: none"> • Gas industry approach to tackling fuel poverty does not evolve • Customers do not receive the best support available and fuel poverty continues to remain a societal problem • Measure restricted to providing gas connections alone could drive low ambition across GDNs and submission of low targets 	

Option 2: Broadened fuel poor output – Available to all households in fuel poverty or where there is a majority of homes within a community within fuel poverty	
<ul style="list-style-type: none"> • Deliver the most effective/efficient approach for the household – Example interventions: gas connection, new boiler, non-gas related efficiency measures e.g. insulation, energy and income/debt advice. • Volume driver – unit cost, or voucher, level set and claimed for each household or • Use it or lose it allowance – Allowance based on triangulated Willingness to Pay (WTP) research. Any allowed funding not allocated is returned to customers. • Refocussed Stakeholder Engagement Incentive Submission (SEIS) to encourage engagement on the energy transition, whole system including affordability and fuel poverty – GDNs rewarded for shaping long term whole system fuel poor regimes and sharing best practice . • Effectiveness incentive – GDNs rewarded for achieving target levels above a certain Social Return on Investment (SROI). A penalty would apply for performing below the set level. 	
Assessing the merits and drawbacks	
Pros	Cons
<ul style="list-style-type: none"> • Delivers the best solution for each specific household • Does more to lift customers out of fuel poverty • Flexibility allows GDNs to deliver efficient levels of fuel poor solutions • Can account for changing environments e.g. customer needs 	<ul style="list-style-type: none"> • Perception of cross-subsidy • Beyond the specialism and expertise of GDNs • No fixed targets reduces the clarity of outcomes • Current SEIS incentive opportunity may be too small to encourage ambition • No agreed cross GDN SROI calculator in place to ensure comparability

<ul style="list-style-type: none"> Encourages collaboration and joined-up funding streams 	
Potential unintended consequences	
<ul style="list-style-type: none"> Market and Competition challenges in delivering energy efficiency measures Added confusion for the customer regarding the role of Suppliers and Distributors if Distributors take up a lead role in energy efficiency measures that are currently delivered by Suppliers via the ECO 	

Option 3: Centralised model to address fuel poverty – Available to all households	
<ul style="list-style-type: none"> All types of intervention that address fuel poverty managed by a central organisation – Central or regional body appointed by Government that will work with partners to deliver the Fuel Poverty Strategy. Interventions would include gas connection, gas-related efficiency measures, non-gas related efficiency measure and energy and income/debt advice. All avenues for funding brought together under a central organisation – A blend of Government funds supplemented by Regulated Funds and Energy Company funds. A fully coordinated programme bringing together all schemes into one central body appointed by the government – would provide a ‘one-stop-shop’ for coordinating the delivery of the best technical solution for households. Central organisation will ensure all interventions are targeting customers who are experiencing fuel poverty – alignment of all schemes and funding will mean that interventions and solutions target households who are experiencing fuel poverty. 	
Assessing the merits and drawbacks	
Pros	Cons
<ul style="list-style-type: none"> Aligns all funding into one central organisation to deliver the best solutions for households Does more to lift customers out of fuel poverty Can account for changing environments e.g. customer needs Encourages collaboration and joining up funding streams No requirement to introduce incentives for GDNs 	<ul style="list-style-type: none"> Risks around the central body focussing on national issues rather than local ones No fixed targets could drive the wrong behaviours within GDNs Administrative burden of managing several organisations
Potential unintended consequences	
<ul style="list-style-type: none"> Costs involved in setting up a central body escalate, and the solution proves not to be value for money for customers 	

2.4. Why are these the options

Our insights and engagement inform us that customers and stakeholders believe that we have a role in tackling fuel poverty within our regions.

A small proportion of our customers and stakeholders believe our role should be limited to network solutions only, without going beyond the meter. This proportion reduces as customers and stakeholders are more informed in this area. Option 1 broadly maintains the status quo of addressing fuel poverty by providing gas connections to fuel poor customers that are not connected to the network.

A number of our customers do however believe that we could do more to address fuel poverty in our networks beyond just providing a gas connection, including in-house solutions and other energy efficiency measures. Option 2 addresses this by broadening the fuel poor output measure.

Option 3 is a more transformational approach to address some of the key concerns within the existing FPNES scheme and the wider fuel poor strategy. A Centralised approach which brings together schemes and funding streams can make significant inroads in alleviating fuel poverty.

These three options provide a wide range for consideration and address all the key insights we have had in this area.

Here is a view of how the options deliver against the objectives:

Table 9 Options appraisal against objectives

	1. Maintain status quo	2. Broadened fuel poor output	3. Centralised model to address fuel poverty
Deliver the most effective solutions to lift households out of fuel poverty	Yellow	Green	Green
Enable and drive GDNs to be ambitious in tackling fuel poverty	Red	Light Green	Light Green
Improve the way in which we target customers and communities living in fuel poverty	Red	Green	Green
Join up all available funding to address fuel poverty	Orange	Yellow	Green
Encourage collaboration and sharing of best practice	Yellow	Light Green	Green
Clear accountability and targets to ensure effective delivery	Yellow	Light Green	Orange

No delivery	Weak delivery	Some delivery	Delivery	Strong delivery
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2.5. Customer and stakeholder preference

Based on business insights, qualitative engagement and expert stakeholder views, the long-term preference is Option 3, a centralised model to effectively address and reduce fuel poverty. However, we recognise that this is an ambition which will require effective coordination with key stakeholders and organisations involved to ensure there are clear accountabilities and delivery of the best customer outcomes. We are therefore proposing to lead the industry in RIIO-2 by undertaking a smaller scale pilot to demonstrate its effectiveness.

During the transition to a centralised approach, we propose to have aspects of option 2 which will enable an environment to move to Option 3. If the current FPNES arrangements were continued, the delivery of fuel poor gas connections will significantly reduce. However, under revised arrangements which align funding and drive a collaborative approach to tackling fuel poverty, it is feasible that fuel-poverty interventions (beyond just gas connections) could deliver greater value to homes most at risk.

3. Assessing performance levels



3.1. Performance over RIIO-GD1 to date

Table 10 RIIO-GD1 performance

	RIIO-GD1 Target	13/14	14/15	15/16	16/17	17/18	18/19	RIIO-GD1 Actual to date	% delivered against target
East of England	12,046	1,625	1,305	1,484	1,553	1,921	1,951	9,839	82%
North London	2,880	270	229	243	377	527	790	2,436	85%
North West	13,330	1,785	1,711	1,557	1,611	1,929	1,289	9,882	74%
West Midlands	8,360	1,130	949	1,091	1,112	1,053	639	5,974	71%
Northern Gas Networks	14,500	1,164	1,707	2,458	2,638	2,099	2,763	12,829	88%
SGN – Scotland	17,130	4,983	3,749	2,686	2,946	2,412	2,302	19,078	111%
SGN – Southern	10,376	1,175	1,208	1,160	1,007	840	1,626	7,016	68%
Wales and West Utilities	12,590	2,632	1,661	1,559	1,596	1,051	1,083	9,582	76%

AWS are experts in identifying and targeting customers living in fuel poverty to provide them with the support they need, including potential free or subsidised gas connections. In RIIO-1 we have worked with AWS to deliver 77% of our agreed fuel poor connections targets to date.

In 2018/19 we delivered a total of 4,669 fuel poor connections across our networks. 2,608 of these connections were carried out as part of community schemes where volumes have seen a significant increase of about 93% compared with an average of 1,354 in the first 5 years of RIIO-1. 2,061 were one-off connections in fuel poor areas, which is a decrease of c.41% on 17/18 volumes due to the changes in the qualifying criteria introduced by Ofgem. In order to meet the challenge, we have introduced initiatives that include:

- Accessing the warm home fund to work with Local Authorities for whole-house solutions in targeted areas.
- Continuation of installing gas on Park Home sites as this has been successful in our North London network.
- Reviewing all connections that have been submitted through our standard connection application route to ensure those who are eligible for a fuel poor connection have access to this service.
- Increased targeting of fuel poor houses using publicly available data.

RIIO-1 performance summary

Delivery against our 8-year commitment remains a challenge in all of our networks given Ofgem's changes to the FPNES qualification criteria but we are responding to this challenge to support fuel poor customers. For example, we have introduced a model to help predict where most potential fuel poor customers are located. We will continue to innovate and look for opportunities to further improve our delivery.

3.2. What performance levels have we considered for RIIO-2

Fuel poor connections

We believe there is still a role for Cadent to provide subsidised gas connections to households when this is the most effective intervention to address fuel poverty. However, the number of connections delivered will be lower than delivered in RIIO-GD1.

Following the removal of the Index of Multiple Deprivation (IMD), area-based eligibility criteria, the scheme is more dependent on individuals sharing personal or sensitive data such as income which some may be reluctant to reveal.

In addition, Ofgem are currently consulting¹³ on their response to the changes to ECO3 proposed by BEIS in its 'ECO3 Improving consumer protection' consultation¹⁴. The new requirement proposed by BEIS and Ofgem is for loft and cavity insulation to have been installed into a property before ECO-funded first-time central heating system (FTCH) can be being fitted. This may unintentionally reduce the number of fuel poor households benefitting from first-time central heating and consequently, gas connections funded through the FPNES.

We support the principle of ensuring that fuel poor residents achieve the maximum bill saving and thermal comfort and loft and cavity wall insulation should be installed wherever practical. However, if this requirement is mandated there would be an number of situations where customers could not benefit from the FPNES. This includes:

- If the resident themselves reject the installation of the insulation, this is particularly relevant given the high volume of historical issues caused through cavity wall insulation e.g. damp problems.
- If the resident's neighbour(s) object e.g. should the resident live in a property where joint permission would be required (flats).
- If the internal state of the property is such that loft insulation isn't practical – for example, where the loft has been boarded, or there is a significant number of items in it that the resident isn't willing or able to move.
- The ECO funding available for insulation isn't sufficient to cover the full cost of the required works, and a top-up from a local authority or landlord is not available.

Based on this proposal and changes to the FPNES criteria we are forecasting delivery of 6,250 fuel poor gas connections over the RIIO-2 period.

Delivery in 2018/19 and the first few months of 2019/20 indicates that we are able to deliver around 500-600 one-off gas connections a year. With improved targeting we will commit to increasing annual performance levels by 20% and deliver around 600-700 gas connections a year. In addition, our service provider, AWS, has seen a significant turndown in schemes that are able to pass the economic test. For the last two years our partner only qualified 1,200 schemes (i.e. 600 a year on average) and does not expect that this will increase in RIIO-2. Therefore, we are forecasting delivery of 1250 fuel poor gas connections a year on average and 6,250 across the RIIO-2 period.

¹³ [Ofgem's ECO3 improving consumer protection consultation](#)

¹⁴ [BEIS ECO3 Improving consumer protection consultation](#)

Table 12 shows the annual bill impact for our low level option where we deliver only gas connections to address fuel poverty.

Table 11 Bill impact for low level option

Low	
Target range (RIIO-2 period)	6,250 fuel poor gas connections across all networks
Cost to achieve (RIIO-2 period)	£15,121,825
Cost assumptions/ calculation	Number of fuel poor connections x value of fuel poor voucher (2050 x £2256 = £4,623,774) (500 x £2825 = £1,412,500) (2250 x £2463 = £5,541,750) (1450 x £2444 = £3,543,800) Total = £15,121,825
Annual bill impact (average Cadent customer)	£0.00 to £0.06

Fuel poor in-house interventions

The provision of a new gas connection is a narrow ‘one size fits all approach’ which ignores a significant proportion of our customers in fuel poverty, whereas it is only by identifying and understanding those customers most at risk from fuel poverty when an effective and sustainable solution can be delivered. In RIIO-2, we recommend that the provision of new gas connections should be part of a broader programme to improve the energy efficiency of homes experiencing fuel poverty. This broader approach should be aligned to the Government Fuel Poverty Strategy and conditional upon additional funding, in line with customer willingness to pay, being made available to support us in undertaking a more holistic and flexible approach to addressing the issues of fuel poverty.

Under an enhanced fuel poor output measure, Cadent could deliver a number of in-house interventions which better address fuel poverty along with gas connections. For some homes, the existing value of the fuel poor voucher may not be sufficient to undertake interventions to lift the household out of fuel poverty. It is proposed to have a fund on top of the fuel poor voucher per household to ensure that the required support is always available. This will increase the number of interventions over the RIIO-2 period.

Intervention options that may be considered would include but not be limited to:

- Installation of first-time central heating
- Installation of other heating e.g. Electric storage heaters (if not on gas-network)
- Installation of double glazing or replacement windows
- Cavity wall insulation
- External wall insulation
- Roof insulation
- Draft proofing
- PV cells

The table below shows the annual bill impact for delivering additional fuel poor non-gas interventions showing our medium (5,000 interventions) and high (15,000 interventions) levels.

Table 12 Medium and High delivery targets

	Medium	High
Target range (RIIO-2 period)	5,000 additional fuel poor interventions across all 4 networks over the RIIO-2 period.	15,000 additional fuel poor interventions across all 4 networks over the RIIO-2 period.
Cost to achieve (RIIO-2 period)	£28,365,000	£95,005,000
Cost assumptions/ calculation	Number of fuel poor interventions (beyond connections) x cost of intervention (5,000 x £5,673*)	Number of fuel poor interventions (beyond connections) x cost of intervention (10,000 x £5,673**) Number of fuel poor interventions (funding unavailable) x cost of intervention (5000 x £7,655**)
Annual bill impact (average Cadent customer)	£0.42 – £0.48	£1.42 – £1.48

** Average cost of intervention breakdown

Table 13 Estimated intervention costs

	Estimated cost of intervention	Some funding available for in-home measures available		No funding available for in-home measures available	
		% likelihood of intervention required	Assumed average cost	% likelihood of intervention required	Assumed average cost
Gas Connection	£2,624	45%	£1,181	45%	£1,181
First Time Central Heating (Assumed 9 Radiator, 3 Bed Home) ¹⁵	£3,500	90%	£3,150	85%	£2,975
Roof Insulation ¹⁶	£395	15%	£59	30%	£119
Cavity Wall Insulation ¹⁵	£725	10%	£73	30%	£218
External Wall Insulation ¹⁵	£13,000	0%	£0	10%	£1,300
Internal Wall Insulation ¹⁵	£7,400	0%	£0	2%	£148
Replacement Windows	£3,200	15%	£480	15%	£480

¹⁵ www.householdquotes.com

¹⁶ <https://www.energysavingtrust.org.uk/>

Draft Proofing	£150	40%	£60	50%	£75
PV Cells	£6,200	5%	£310	10%	£620
Electric Storage heaters	£3,600	10%	£360	15%	£540
Average cost of intervention			£5,673		£7,655

The unit cost of the various interventions is based on cost data from our partners and reliable energy efficiency websites e.g. Energy Saving Trust. The percentage likelihood of the intervention that a household could need to be lifted out of fuel poverty is based on data from BEIS and evidence from our strategic partners, AWS. Both sets of evidence have been used to calculate an assumed cost per intervention.

The target level of interventions is based on the extent we are able to intervene to address fuel poverty within our regions and the level of funding available. Our target levels improve if our interventions are extended to other targeted solutions and additional funding is made available.

Centralised model

We aim to lead the industry by trialling a pioneering scheme to join up all fuel poor funding across the energy industry to provide a one-stop-shop for fuel poor customers. We have set out a vision, derived by our Community Interest Company Partner Affordable Warmth Solutions, of how a funding mechanism might work in England (which does not benefit from the same Government supported schemes as in Scotland and Wales). This is shown below.

Figure 4 Vision for a funding model to deliver fuel poor interventions in England



This model will enable all types of intervention that address fuel poverty to be managed by a central or regional organisation. The central or regional body will work with partners to deliver the Government Fuel Poverty Strategy. Interventions could include gas connections, gas related efficiency measures (new boiler), non-gas related efficiency measures (e.g. insulation, windows) and income/debt advice and support.

Funding for this programme could see a blend of government funds (National Infrastructure Programme) supplemented by regulated funds (GDNs etc.) and energy company Funds (ECO or successor scheme). As an example, £15m-£20m per network would create a funding 'pot' of between £75m-£100m, which could be enhanced with the additional funding from government schemes and ECO. This whole system approach would help eliminate the uncertainty and confusion customers experience when having to deal with individual organisations and provide a one-stop-shop for identifying and coordinating the delivery of the best technological solution for individual households.

The service could be further enhanced with an online platform e.g. Energy Loop which was a joint project funded by energy networks through the Energy Innovation Centre which has designed a portal and process to bring together funding with customer needs (this would realise the value of the historic investment made by GDNs in technology and provide a broader service to non fuel poor Customers).

We will trial this model with our partners AWS in our West Midlands network through the remainder of RIIO-1. We will fund the trial ourselves through our community fund. We propose that it should be applied across all of England for RIIO-2 if successful.

Staffordshire pilot

We have received support from key stakeholders that this alternative approach of centralising fuel poor funding and interventions could deliver better outcomes for customers and have a greater impact in addressing the societal issue of fuel poverty, however some key risks and concerns regarding a central scheme highlighted within 'assessing the merits and drawback' would need to be addressed.

In order to demonstrate how the model could work, we are working with our partners, AWS, on the initiative, Staffordshire Warmer Homes¹⁷ which is being managed and delivered by Staffordshire County Council through the Warm Homes Fund.

The initiative delivers fully funded first-time central heating systems to eligible¹⁸ homes across Staffordshire. The scheme is available to those who claim benefits/tax credit, have low or no income, are disabled, elderly or have very young children.

Staffordshire Country Council is working in partnership with E.ON and local district and borough councils across Staffordshire to deliver this initiative. Funding to provide free first-time central heating is through the £150m Warm Homes Fund and other public-sector funds.

We will assess the outcomes of this pilot to understand its effectiveness and develop a plan for how it can be rolled out on a wider scale.

Income and energy advice

Together with fuel poor interventions we also propose to deliver income and energy efficiency advice to address consumer affordability. This would be delivered via a strategic partnership, using data driven techniques to identify fuel poverty households in conjunction with referrals from other partners such as the NHS and Fire and Rescue services. Trained surveyors with expertise in energy efficiency and affordability will visit the households and undertake a tailored survey identifying ways that customers could reduce their energy costs and improve their disposable income. This could include support on switching energy suppliers, how to use appliances more efficiently, how to use Economy 7 heating systems, and income support including benefits entitlement and debt management.

Although all households within our regions suffering from fuel poverty may benefit, this could be most effective for customers we have greater access to or those in vulnerable situations. For instance, those customers who we provide a gas connection to or where we have had to condemn appliances.

In order to go beyond this, we could seek funding to create a competition for stakeholders to support the targeting and identification of the hardest to reach groups, including those in fuel poverty transition.

The table below shows the annual bill impact for delivering income and energy advice for all our targeted performance levels.

¹⁷ <https://www.staffordshire.gov.uk/Warmer-Homes/Staffordshire-Warmer-Homes.aspx>

¹⁸ <https://www.staffordshire.gov.uk/Warmer-Homes/Who-is-eligible.aspx>

Table 14 Costs and bill impacts for delivering energy efficiency advice

	Low	Medium	High
Target range (RIIO-2 period)	Advise 6,250 customers provided with a connection 14,000 customers provided following visit that resulted in appliance condemnation	Advise 11,250 customers provided with a connection/intervention 14,000 customers provided following visit that resulted in appliance condemnation	Advise 21,250 customers provided with a connection/intervention 14,000 customers provided following visit that resulted in appliance condemnation Plus £3,500,000 to run 'competitions' with stakeholders to target all those in fuel poverty transition and beyond
Cost to achieve (RIIO-2 period)	£3,037,500	£3,787,500	£8,787,500
Cost assumptions/ calculation	No. of customers given advice x cost of advice (assumed £250) x % take-up (assumed 60%) The £250 unit cost of advice is based on conversations with Ground Work (as part of the Green Doctor project of energy and income assessments)		
Annual bill impact* (average Cadent customer)	£0.07	£0.09	£0.18

*Bill impact methodology will be updated as we develop our plan

4. Customer testing



We have tested our commitments in a variety of ways to ensure we have both quantitative and qualitative responses across a broad segmentation of customers and stakeholders. We have tested the output measures that we are proposing and gathered feedback where options exist. This phase was called business options testing. Alongside customer testing, we have targeted specific groups such as hard to reach, seldom heard, future generations, those in fuel poverty and businesses such as micro businesses. We really wanted to understand if had heard correctly what our customers and stakeholders wanted and needed from us.

The options testing shared the bill impacts to ensure our customers and stakeholders were fully informed before making choices.

Once we had gathered all the feedback from the options testing phase, we conducted acceptability testing to test our plan in readiness for our final plan submission in December.

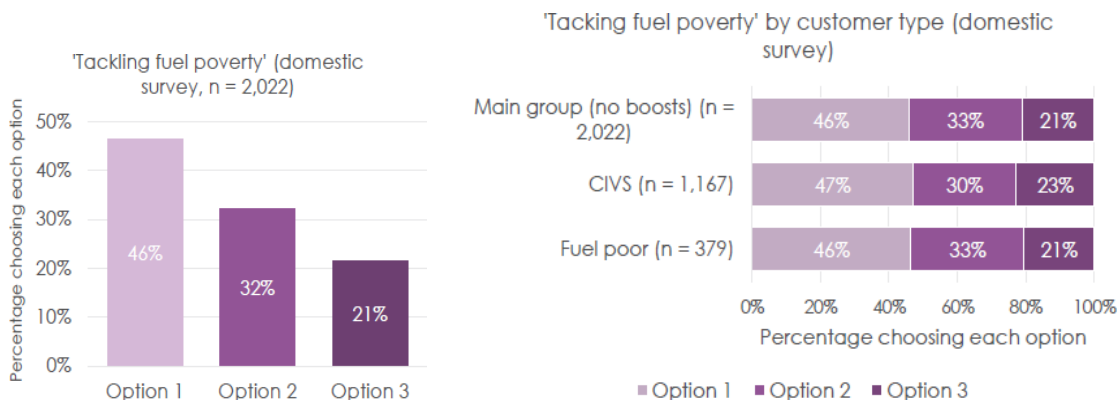
4.1. Business Options Testing (BOT) and triangulation

During the early stages of engagement, our customers and stakeholders encouraged us to aim for mid range (medium) delivery targets in tackling and reducing fuel poverty experienced in our networks. At the fuel-poverty customer forums (March 2019) the majority of customers across all four regions selected the highest delivery targets for whole house solutions for all of those in fuel poverty (including those already connected to the gas network).

This was supported by the stated preference study conducted by NERA and Traverse to estimate customers' WTP for improved service levels to address fuel poverty – covering domestic and non-domestic customers. Domestic customers were willing to pay £3.67 for our proposal with the highest level of delivery targets to provide whole-house solutions for those on and off the gas network when considered across all proposed service improvements (i.e. scaled WTP). Non-domestic customers had zero WTP for all proposals when considered across all service improvements. However, they were willing to pay £12.05 for our proposal with the highest delivery targets when it was considered alone.

We presented customers our proposals, with associated bill impacts, through our business options testing (BOT) survey. Based on over 2,500 responses, we found that, with respect to supporting customers in fuel poverty, the low option (Option 1: providing 6,250 fuel poor connections and offering income and energy advice to 18,000 customers) received the most votes in the preliminary results for our domestic BOT survey (46%). While the medium option (Option 2: 6,250 connections, 5,000 non-gas interventions, and 24,000 provided advice) and high option (Option 3: 6,250 connections, 15,000 non-gas interventions, and 34,000 provided advice) received 32% and 21% of votes respectively. This view was very similar when we asked customers in vulnerable situations and fuel poor customers.

Figure 5 Tackling fuel poverty results from BOT testing survey



Strength of preference analysis, however, showed that customers who selected Option 3 had the highest degree of preference than customers who selected Options 1 and 2.

Option	Strength of preference
Option 1: providing 6,250 fuel poor connections and offering income and energy advice to 18,000 customers	6.51 / 10
Option 2: providing 6,250 fuel poor connections, 5000 non-gas interventions and offering income and energy advice to 24,000 customers	7.02 / 10
Option 3: providing 6,250 fuel poor connections, 15000 non-gas interventions and offering income and energy advice to 34,000 customers	8.08 / 10

The score indicates the average strength of preference for an option, where a score of 1 is very weak while 10 is a very strong preference. Although 21% of customers selected Option 3, their preference was significantly stronger than that of customers who selected 1 and 2.

However, the qualitative workshops provided a different picture with Option 3 preferred overall, with Manchester showing a slight preference for Option 1 and Birmingham showing a preference for doing nothing. Customers in London and Ipswich showed a clear and significant preference for Option 3.

The difference in overall results between qualitative workshops and quantitative surveys can partly be explained by greater information being provided during the qualitative workshop discussions allowing customers to provide a more informed response.

We also held separate focus groups with fuel poor customers. The overall view was that Cadent should not extend its role beyond providing free gas connections, while some thought Cadent should do as much as possible but seek to work with existing partners who have expertise in in-house solutions and energy and income advice.

We also considered the views of expert industry stakeholders who encouraged us to go beyond providing gas connections alone to tackle fuel poverty and have welcomed our commitments around providing in-house interventions and income and energy advice to have a greater impact in lifting customers out of fuel poverty.

After triangulating our customer engagement results we believe there is sufficient support to deliver gas connections to assist those in fuel poverty who are not connected to the gas network. Overall, there is also support for providing non-gas interventions and energy and income advice and we have placed a greater weight on expert stakeholder feedback and on the qualitative research, noting the complexity of engaging in this unique area.

There was an outlier in our customer testing results with less support in the West Midlands than other Networks. However, our expert stakeholders advised us not to reduce our ambitions in a network which faces the highest levels of fuel poverty across the country. Therefore, we have decided to offer the same service to all regions which is consistent with our vision to set standards that all our customers love.

Other conflicts we needed to manage

In the RIIO-2 Sector Specific Decision Methodology, Ofgem has indicated that GDNs should not be funded for in-house energy efficiency measures and interventions should be limited to gas connections only. However, as described above, we believe there is strong customer and stakeholder support to undertake a whole-home approach to tackling and reducing fuel poverty.

What steps have we taken and what changes have we made?

As a result of these insights and triangulation, we will continue to provide 6,250 fuel poor connections over the period. There is also strong support to undertake in-house interventions to reduce fuel poverty. However, as a result of the conflicts highlighted, we will reduce our targets from delivering 15,000 in-house interventions to 5,000. We will also reduce our targets to offer income and energy advice to 35,250 customers to 25,250

customers. We will continue to improve our methods and processes to improve our targeting of fuel poor households and work with key industry experts and government to develop a centralised model which brings together all sources of funding to tackle and reduce fuel poverty by providing customers with the right solutions for their home following the results of the trial we are undertaking in Staffordshire.

4.2. Acceptability testing of our quality experience customer outcome

In our acceptability testing, the quality experience aspects of our business plan, including protecting customers in vulnerable situations, were generally found to be acceptable:

- Of domestic customers, 83 of those surveyed found the quality experience section of the plan acceptable, and only 1% found it unacceptable. When asked what would make it acceptable, those who answered that they found it neither acceptable nor unacceptable suggested a further reduction in prices (14%) or wanted more detail on how it would be implemented (6%). This was broadly consistent across the regions.
- 49% of Cadent business customers said that they found the quality customer experience aspects of Cadent's business plan "very important" and 37% "fairly important" (86% in total). The breakdown across business sizes was broadly consistent, but overall acceptability increased with business size, with the percentages finding the plan either very acceptable or acceptable being 79%, 87% and 90% for sole traders, businesses with 1-9 employees and business with 10-49 employees respectively. Customers said that a quality experience was an essential element of delivering a service. However, some customers questioned the feasibility of the plan and some terms used (such as fuel poverty or PSR) were not understood. Many business customers said that the proposals around fuel poverty and supporting those in vulnerable situations demonstrated that Cadent were making efforts to go above and beyond their remit.

Our commitments relating to tackling affordability and fuel poverty were supported in most qualitative acceptability testing, but customers did have some concerns:

- Customers in our acceptability testing focus groups with those in fuel poverty supported Cadent's approach to addressing fuel poverty but felt that more people could be supported by the plans. Even though some customers felt it should not wholly be Cadent's responsibility to provide support for those experiencing fuel poverty they like the idea that Cadent had made this a focus of their plan and was taking some ownership of the issue.
- Customers in vulnerable situations interviewed as part of acceptability testing were supportive of the fuel poverty initiatives. Several mentioned that this should be communicated more widely so that people are aware of how Cadent can support them. Only a couple of participants felt that this initiative should not be Cadent's responsibility, where one suggested it should be the government's responsibility and another customer was concerned about people abusing the support.
- Several customers in our acceptability testing focus groups with the general population wanted to see Cadent be more transparent with its motivations for doing this work e.g. new gas connections add customers. Cadent is benefitting from growing their gas network, and participants think that they should be honest about this.
- Several customers were concerned about customers footing the bill for these [social] initiatives, especially where they felt Cadent was not being transparent about its motivations.
- The quantities felt arbitrary to the participants. They want Cadent to make clear how these numbers were decided. There were mixed views and mixed support for Cadent's efforts to address fuel poverty. Participants landed on why questions: why that number? Why this action? Why is Cadent doing this? Participants suggested several ways in which Cadent could improve these aspects of the plan, including:
 - Echoing general concerns about the plan, participants felt that benchmarking, context, and most transparent rationale would improve the clarity of the fuel poverty commitments.
 - Similar to customer forum members, participants suggested that Cadent provide a clear means testing approach.

- Concerns raised at our acceptability testing customer forum included:
 - Fuel poverty interventions and the measures to protect vulnerable people would not go to the 'right' people.
 - Those most in need would have difficulty accessing provisions.
 - The working poor would be missing out on these initiatives.

Consistent with previous customer forum meetings, the fuel poverty commitments received a mixed response from participants.

Challenges to this section of the business plan stemmed from two main concerns relating to new gas connections:

- Cadent not being transparent about its motivations for connecting homes to the gas network. Participants felt that Cadent's presentation of 'new gas connections' as a social good, and as part of Quality Experience, is disingenuous. Cadent is benefitting from growing their gas network, and participants think that they should be honest about this.
- These connections are in contradiction to the business plan's environment outcome. Participants noted that the discussion of fuel poverty was divorced from the business plan's environmental outcome because more gas connections will create more CO2 emissions. In both London and Birmingham participants wondered why insulation which addresses fuel poverty and the environment was not discussed.
- Some participants in the acceptability testing focus groups with future customers through that providing advice about insulation was a positive step that Cadent should make whilst others thought that this should be left to suppliers/government.
- Some participants in our acceptability testing customer forum felt giving energy advice ran the risk of being patronising, but others were supportive of it.

As part of the Verve business plan consultation, a quality experience was seen as critical obligation for any organisation. Most customers saw this as a hygiene factor and it surprised a few that it was part of the plan, although many welcomed it being spelt out. Many expected the commitments to be manageable, though no customers had any real experience of Cadent's services. Providing detail of what the commitments should entail provides comfort, though failure to deliver will quickly harm trust. Reliability and reassurance in relation to safety and service delivery stood out. Some customers had issues with jargon e.g. PSR and some commitments felt hard to achieve. Despite Cadent admitting that direct contact with their customers is rare, the promise that they are available, if needed, was reassuring. Issuing CO alarms to, and educating households showed Cadent is going above and beyond in its service. This service stood out to customers as a positive and proactive service.

AWS Board meeting

In November 2019, Cadent presented their RIIO-2 proposals on supporting customers in vulnerable situations including proposals on tackling affordability and fuel poverty to the AWS Board which consists of:

- Jeremy Nesbitt – Managing Director of Affordable Warmth Solutions
- Mike Foster (Chairman) – CEO of Energy and Utilities Alliance
- Chris Bennett (Non-Executive Director) – Director of UK Regulation, National Grid
- Colum Goodchild (Non-Executive Director) – RIIO-2 Investment Manager, Cadent
- Jenny Saunders (Non-Executive Director) – Chief Executive of National Energy Action
- Johnathan Leach (Non-Executive Director) - Senior Nuclear, Energy and Commercial Lawyer, Prospect Law

The AWS Board were supportive of our proposals for fuel poverty, particularly our whole-house solution approach as this will have the greatest impact in taking customers out of fuel poverty.

5. Our commitments



5.1. Our commitments for tackling affordability and fuel poverty in RIIO-2

In order to assure the delivery of our commitments, we will set measures against the following areas. We highlight the benefits to current and future customers for each of our commitments:

Table 15 Our commitments to tackle affordability and fuel poverty

Output commitment	Measure definition	Benefits to current customers	Benefits to future customers	Net CVP over RIIO-2
Provide 6,250 fuel poor gas connections	Number of fuel poor connections completed	<ul style="list-style-type: none"> Gas is a familiar, reliable and affordable fuel that can contribute to helping customers come out of fuel poverty 	<ul style="list-style-type: none"> A gas connection will benefit the entire family and mean that the property has a gas supply for any future occupiers 	N/A
Complete 5,000 in-house interventions	Number of in-house interventions completed	<ul style="list-style-type: none"> Measures such as installing a new boiler or improving household insulation can contribute significantly to the energy efficiency of a household and the subsequent energy bills 	<ul style="list-style-type: none"> Any in-house measures to increase the energy efficiency of a property will benefit the entire family (including children) and measures will be in place for any future occupiers of the property 	£13.2m
Offer income and energy advice to 25,250 customers	Number of people provided with income and energy advice	<ul style="list-style-type: none"> Energy and income advice will help to support decision making in the home in relation to budgeting for energy costs. This advice should provide the foundation for positive decision making towards keeping households warm in the longer term This element of our commitment focuses on the individual and what may or may not be contributing to the circumstances of their fuel poverty, not just the physical make-up of a household 	<ul style="list-style-type: none"> Learning from any income and energy advice provided to homeowners/tenants has a good chance of being passed on to children and future generations 	£48.1m
Pioneering new funding model trial	Developing a new industry approach to supporting those in fuel poverty	<ul style="list-style-type: none"> Aligning funding with government schemes should simplify processes and ultimately deliver an improved customer experience 	<ul style="list-style-type: none"> Any changes that are implemented should help to deliver an improved customer experience to any future customers who may experience fuel poverty 	N/A

Improve targeting of customers in fuel poverty	Improving how we target those in fuel poverty	<ul style="list-style-type: none"> More accurate targeting should mean that those most in need are prioritised and get the services they need faster 	<ul style="list-style-type: none"> Any new measures for targeting fuel poverty should set the foundations for targeting fuel poverty in future Any new criteria will use the latest data and technology to help us identify fuel poverty both now and, in the future. 	N/A
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What will the future look like (RIIO-3 and beyond) as a result of embedding our commitments?

We see RIIO-2 as a pivotal point in changing the Fuel Poor landscape across Cadent's footprint by 2030 from one that has the highest rates of Fuel Poverty in England, to one that is below the national average. Establishing whole home thinking and a trusted funding body to ensure that both the home and the person is removed from Fuel Poverty permanently, and households know where to go if they need impartial support with managing their energy needs.

5.2. Assessment of how to treat commitments

We have undertaken an assessment of these outputs against Ofgem's criteria to understand the best form of regulatory treatment.

Table 16 Regulatory treatment assessment

Regulatory treatment	Criteria	Rating	Further explanation of assessment
Reputational ODI	Demonstrate this is important to customers and/or stakeholders	Green	Our preferred option for this output has support from customers and stakeholders as a more effective way to tackle fuel poverty.
	Funded elsewhere in our plan, or inappropriate for funding	Red	This output is not funded elsewhere in the plan, and is appropriate for funding in line with Ofgem's proposals.
	Can robustly measure performance improvement	Green	Elements of this output including new connections and energy advice can be easily measured.
Financial ODI	Demonstrate this is important to customers and/or stakeholders and they are willing to pay	Green	Our preferred option for this output has support from customers and stakeholders as a more effective way to tackle fuel poverty.
	Not funded elsewhere in our plan	Green	This output is not funded elsewhere in the plan, and is appropriate for funding in line with Ofgem's proposals.
	Can robustly measure performance improvement	Green	As described for Reputational ODI.
Price control deliverable	Specific deliverable with a clear timeline and targets	Green	Our preferred option for this output contains elements of specific work programmes to deliver the FPNES scheme.
	Demonstrable benefit to customers which they support	Green	Our preferred option for this output will deliver new gas connections to assist those in fuel-poverty situations.

Licence Obligation	Absolute minimum, with significant customer harm if we do not deliver it		Obligations already exist to provide protection to vulnerable customers. Our proposals for this output are in line with Ofgem's proposals and include new services and assistance beyond minimum standards.
	Applicable to all GDNs		While fuel poverty is an issue for all GDNs, our output reflects work undertaken specifically to understand the challenges and needs of customers in our area.
Business Plan Incentive	Adds to the quality of our plan, but not a specific deliverable or performance measure		Our preferred option for this output includes specific programmes of work and performance targets.
	Funded elsewhere in our plan, or inappropriate for funding		This output is not funded elsewhere in the plan, and is appropriate for funding in line with Ofgem's proposals.

Doesn't meet criteria	Weakly meets criteria	Partially meets criteria	Meets criteria	Strongly meets criteria
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We are supportive of Ofgem's proposal to retain a 'use-it-or-lose-it' allowance in the form of a Price Control Deliverable (PCD) for this output. This should be structured as follows:

- A common PCD through a use-it-or-lose-it allowance for fuel poor gas connections
- A bespoke PCD through a use-it-or-lose-it allowance for non-gas interventions and income and energy advice

Table 17 Measuring success

Output	East of England	North London	North West	West Midlands	Cadent	Comparison to RIIO-1	Cost
Fuel poor connections	2,050	500	2,250	1,450	6,250	Targeting 36,616 connections. (RIIO-2 target is lower due to changes in eligibility criteria)	£15.1m
Fuel poor in-house interventions	1,650	400	1,800	1,150	5,000	New output introduced for RIIO-2	£28.8m
Income and energy advice offered	7,200	4,400	7,550	6,100	25,250	Trialled with Citizen's Advice in WM with positive results	£3.8m
Pioneering new funding model trial	Trial taking place in Staffordshire within our West Midlands network					New output introduced for RIIO-2	£0
Targeting customers in fuel poverty	Establish measure and robust baseline – Target 20% improvement					New output introduced for RIIO-2	£0

6. Delivering our commitments



6.1. How we will deliver our commitments

Table 18 how we will deliver our commitments

Area	What we will do to deliver commitments
Customer communications	<ul style="list-style-type: none"> Our broader approach to tackling fuel poverty by introducing in-house interventions and providing income and energy advice will help to ensure that customers are more equipped with the tools and knowledge they need to have the best chance of staying out of fuel poverty in the long term. We will improve our communications to ensure our services related to fuel poverty are accessible and inclusive.
Processes / systems	<ul style="list-style-type: none"> Greater use of AI mapping tools to increase our identification and targeting of customers in fuel poverty. We will use the Fuel Poor Data Predictor Model to help us predict household fuel poverty via EPC ratings. The underlying algorithm uses publicly available data to predict household fuel-poverty status – with over 75% accuracy without having to complete costly and intrusive home visits. Furthermore, the model removes the need to enter sensitive data into other types of survey tools.
Partnerships	<ul style="list-style-type: none"> We will continue to work with industry stakeholders including housing associations, local authorities and MPs to identify those most in need of a gas connection or in-house interventions to reduce fuel poverty. Our overall partnership approach (described in our Customer Vulnerability Strategy) shows how the holistic approach we have taken will enable us to join together data, referrals, best practice and delivery across our 80+ strategic partners.
Engagement	<ul style="list-style-type: none"> We will work with the government to develop an alternative delivery model to best tackle affordability and fuel poverty in England. We will continue to engage with expert stakeholders including those supporting customers living in Fuel Poverty to leverage new good practice (including innovations) and maintain excellent service levels.

6.2. How we will protect against non-delivery

Table 19 protecting against non-delivery

Regulatory tool	How it will help in protecting customers from non-delivery
Price control deliverables	We are proposing that fuel poor connections, in-house interventions, and income/energy advice area set as Price Control Deliverables. Non-delivery of these activities would ensure funding is returned to customers in full.
Reputational	Non-delivery against the reputational incentive set against the fuel poor targeting measure will have a negative reputational impact on Cadent.
Uncertainty mechanism – Reopener	We will include a downside reopener in line with Ofgem’s guidance to reflect the potential impact of a government decision ending the FPNES.

December 2019

Appendix 07.03.12

Going beyond to never leave a customer vulnerable without gas

This output case describes our overall approach to mitigating the risk of a customer being left in a vulnerable situation without gas as a result of a supply interruption. We want to do everything we can to support customers in keeping them safe and warm. There are several ways that we can provide additional support to help customers in the event of a loss of supply. These include providing additional welfare services and going beyond the meter by offering a repair or a replacement of an appliance to the most vulnerable.

In RIIO-1, Guaranteed Standard of Performance (GSOP 3) provided protection for customers on the Priority Services Register in the event of an interruption by providing them with alternative heating and cooking facilities within 4 hours. During RIIO-2 we will make the following enhancements to this measure:

- Increase compensation payments and make payments automatically for GSOP 3, in line with regulatory changes

During RIIO-2 we want to go beyond minimum standards and stretch ourselves to never leave a customer vulnerable without gas by delivering the following commitments:

- Although there is a minimum standard in place to provide alternative heating and cooking facilities to customers registered on the Priority Service Register (PSR), we will significantly increase the range of welfare services that we will offer and, in recognising that vulnerability is transitory, we will offer this to all customers who become vulnerable post the gas interruption (beyond those registered on the PSR). Our additional welfare package will include personalised services such as shower facilities, free meals or temporary accommodation. We will develop a decision making application which considers the customer need and length of interruption and allows our field force to order the required provision or service.
- Through expert partnerships we will support vulnerable customers to repair or replace 5,000 unsafe appliances discovered following isolation. This builds on the existing pilot work we have already completed with National Energy Action (NEA) within our West Midlands network. Through this process customers are referred and their eligibility assessed against a number of criteria to ensure that they get the right support, whether it be a repair or a replacement appliance, or even just advice on gas safety. The pilot has already proved a great success and there is strong support from customers and stakeholder to build on this.
- We won't extend the skills of our workforce to carry out summer safety checks based on the triangulation of customer and stakeholder feedback data. However, we may consider this in the future as we continue to engage during RIIO-2.

We will deliver:

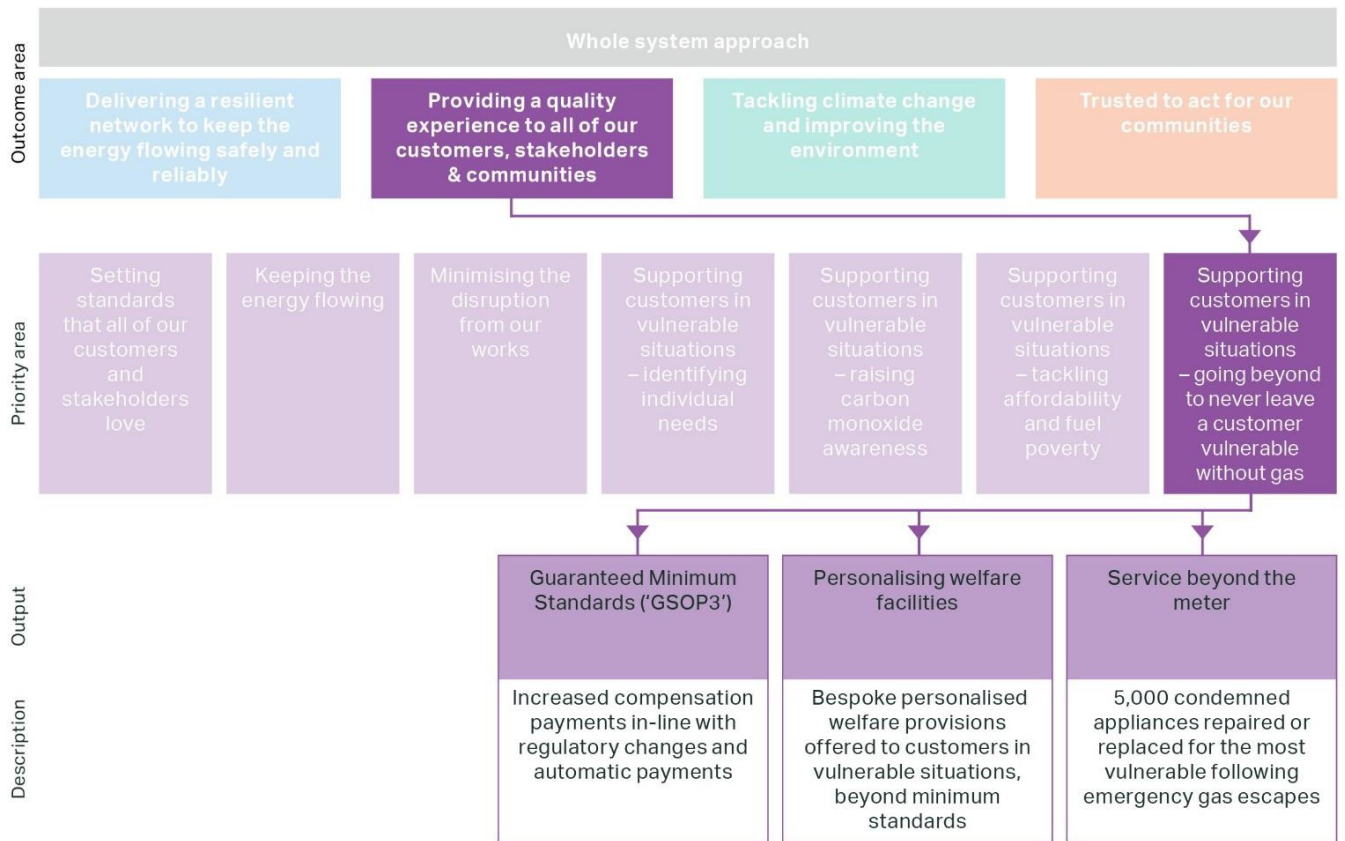


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How we have developed our proposals

1. **We started with the main aim of our customer vulnerability strategy** – We aim to keep our customers warm, independent and safe in their homes. A gas supply interruption has the real potential to undermine this aim. We have a separate output case describing how we will limit the impact of interruptions to all customers, see output Appendix '07.03.06 Getting our customers back on gas' . However, there are several ways that we can provide additional support to customers to mitigate the risk of a gas supply interruption from placing a customer in a vulnerable situation.
2. **We reviewed how we currently measure providing welfare services** – Guaranteed Standards of Performance (GSOP) 3 ensures that gas distribution networks (GDNs) deliver minimum standards of providing alternative heating and cooking facilities to customers on the Priority Services Register (PSR) in the event of an interruption. This is a minimum standard only, and we are looking to go above and beyond this.
3. **This provided us with a clear problem statement** – There are additional, more personalised, services that can be provided to ensure that we never leave a customer in a vulnerable situation. This includes additional welfare services and supporting the most vulnerable with repairing or replacing unsafe appliances following an interruption.
4. **We have applied our own lessons learned from RIIO-1** – In certain circumstances, we have gone beyond the minimum requirements and have explored ways to help customers in vulnerable situations (CIVS) with services beyond the meter. We partnered with National Energy Action and Act on Energy to support customers in the West Midlands with repairing or replacing unsafe appliances. This has delivered positive results which can be expanded further to benefit all customers across all of our networks in RIIO-2.
5. **We gathered insights from historical experience and targeted engagement** – Customers told us that people in vulnerable situations, who depend on gas, should always be protected, and support should be given on an individual basis. Cadent should be responsible for additional services for CIVS. Expert stakeholders in particular agree with us that vulnerability is transient and situation specific. For example, an individual may only be in a vulnerable situation in the event that their gas supply is interrupted. We must consider this scenario in our proposals.
6. **We have looked at what other provisions are available for customers** – in addition to GSOP 3 requirements, several additional alternative welfare provisions can be provided to customers to assist them when our works can adversely impact them. These include oil-filled radiators, thermal blankets, large commercial-style kettles, rechargeable portable showers and some intangible initiatives such as access credit or support in accessing a GSOP payment early, or funding a hot meal or temporary accommodation. Although in RIIO-1 during major incidents or lengthy interruptions we have provided additional services, this has not always been consistent.
7. **We assessed how far the current measures and Ofgem's proposed measures take us against the good practice identified** - Ofgem is proposing to increase the compensation payment levels for GSOP 3 in line with inflation and for payments to become automatic. Our customers have informed us that compensation is not a key concern of theirs. Their priority is reducing the impact of interruptions and as such we considered three additional bespoke measures that go beyond baseline expectations.
8. **We have developed and considered a number of options** – We have considered the following options, although clearly option 1 does not meet our own or our customers expectations (but is there for completeness):
 - Maintain the status quo by continuing to deliver GSOP 3
 - Offer enhanced and personalised provisions for customers who find themselves in vulnerable situations (beyond the PSR) during an interruption
 - Provide enhanced, bespoke welfare provisions and minimise the isolation impact on customers by providing services beyond the meter including proactive safety checks
9. **We tested these options with customers and stakeholders** – We provided costed options that broke down the component parts of the options described above. We used both qualitative and quantitative research approaches. After triangulating our customer engagement results, we believe there is strong support to provide personalised welfare provisions to CIVS and to work with expert partners to repair or replace appliances. Our proposal to do proactive safety checks was not supported by our customers.
10. **Our commitments** – Therefore, we are proposing to continue to deliver GSOP 3 (with enhancements), offer personalised welfare provisions to all customers and establish partnerships to repair or replace 5,000 appliances for CIVS following an emergency incident.

11. **We have already started delivering** – We have already undertaken a trial in our West Midlands network, alongside partners, to explore providing additional support by repairing or replacing appliances for CIVS who are off-gas.

The tables below summarise our commitments in this area:

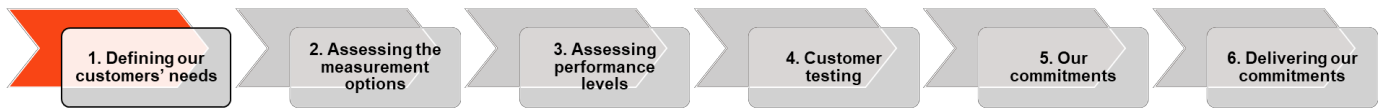
Table 1 Summary of our commitments

Guaranteed Standards of Performance (GSOP) 3 – providing alternative heating and cooking facilities	
Common / Bespoke	Common
Output type	Licence Obligation
Comment	Increased compensation payments and caps and some updated targets
Target	If a customer is registered on the Priority Services Register and their gas supply is interrupted, they will be provided with alternative heating and cooking facilities within 4 hours
Cost implications (annual)	£0.3m efficient level of payment across GSOP 2-14
Incentive range	N/A
Net Consumer Value Proposition (CVP)	No financial CVP, qualitative benefits only

Personalised welfare provisions	
Common / Bespoke	Bespoke
Output type	Output Delivery Incentive (R)
Comment	Go beyond the minimum requirements by offering CIVS a choice of personalised welfare provisions (e.g. rechargeable showers, heated blankets, hot meals, temporary accommodation, temporary credit, access to gym shower facilities etc.)
Target	Providing alternative welfare provisions to all vulnerable customers (including those not registered on the PSR)
Cost implications (annual)	£3.26m
Incentive range	N/A
Net CVP	£120.8m

Services beyond the meter	
Common / Bespoke	Bespoke
Output type	Output Delivery Incentive (R)
Comment	Repair or replace unsafe condemned appliances following gas supply isolation
Target	Repair or replace 5,000 unsafe appliances for the most vulnerable customers on emergency visits.
Cost implications (annual)	£0.54m
Incentive range	N/A
Net CVP	£15m

1. Defining our customers' needs



1.1. What is the area?

Our vulnerability strategy aims to keep customers warm, independent and safe in their homes. Although we sustain high levels of reliability in supplying gas (99.996% in 2018/19), we will sometimes need to isolate a customer's gas supply to respond to an emergency gas escape or carry out planned safety work to upgrade our network. Customers rely on their gas supply to keep warm and to heat their food and water. Therefore, an interruption is likely to have a significant impact, especially for those customers who are in vulnerable situations, although the act of turning off a gas supply can place others into a vulnerable situation too.

In order to minimise this impact, alternative welfare services can be provided to ensure these customers are still able to keep warm and clean and have access to hot food. Although the current guaranteed standards ensure customers on the Priority Services Register (PSR) receive provisions for alternative heating and cooking facilities during a gas supply interruption, we could provide more personalised services tailored to the individual needs of customers beyond those who are on the PSR, recognising the transient nature of vulnerability.

Following an interruption to a customer's gas supply (planned or unplanned), it is important that we restore the supply at their gas meter and appliances. In most cases, we are able to do this quickly or undertake minor repairs if required. However, we are often unable to do this because the customer's boiler or gas appliances require major repair work or replacement. For most customers, repairing or replacing their own appliances is a responsibility that they are able to manage. However, for vulnerable customers those challenges can be very difficult indeed, and exacerbate their vulnerability with potential health impacts. For RIIO-2 there is an opportunity to extend the skills of our workforce to undertake internal repair works or coordinate with strategically appointed partners to better connect CIVS to local Gas Safety Registered Installers (GSRI's) to ensure the internal repair or replacement takes place and we never leave a customer vulnerable without gas.

Although in the long-term, our gas mains replacement programme of works will minimise the occurrences of gas escapes by replacing our metal pipes with plastic pipes, there is an opportunity to use our geographical data to identify key hotspots for leaks and/or vulnerability and undertake a more proactive summer-time programme of works to shift any avoidable interruptions of gas services away from the winter. This approach is widely adopted in Spain and several Scandinavian countries. Results suggest that a proactive approach to identify potential issues before they result can be a more cost effective way of delivering similar reliability figures. However, there are several factors that would limit this approach at any significant scale in the UK (e.g. customer acceptability or willingness to pay (WTP), or, it could be seen as anti-competitive behaviour that extends beyond our licence conditions).

1.2. Why is it important to customers and stakeholders

Customers who are already in a vulnerable situations particularly rely on their gas supply, and others become vulnerable from the act of turning off their gas supply. We have therefore explored ways to avoid interruptions occurring in the first place (e.g. proactive checks) or to minimise their impact through alternative welfare provisions.

Our responsibility is to get the gas supply restored at the customer's meter and prevent their immediate harm from unsafe appliances or gas installations. However, to avoid situations where a customer has no access to gas supply it is important that in certain situations, we go beyond to undertake repairs or replacements or work with other parts of the industry to ensure a customer is never left vulnerable without gas.

1.3. What insights are shaping our thinking

Sources of insight



We engaged with the following customers and stakeholders to discuss and understand how we can ensure that we never leave a customer vulnerable without gas:

Table 2 Customers and stakeholders engaged

Customers	Charities
<ul style="list-style-type: none"> • Domestic customers • CIVS • Non-customers in rural areas • Fuel poor customers • Multiple Occupancy Building (MOB) customers • English as a second language customers • Non-English-speaking customers • Business customers • Future customers • Employees 	<ul style="list-style-type: none"> • Citizens Advice • Royal Association of Deaf people • Royal National Institute of Blind people • Carers Trust • Alzheimer's Society • National Energy Action • Trussell Trust • Shelter • Disabled Living • Sense UK • Catch 22 • Age UK • Islington Chinese Association • Blind Veterans UK • Macmillan Cancer Support • Spinal Injuries Association • HEET • MS Society • Part-sight • Groundwork • Hackney Playbus • Maggie's Trust
Industry Stakeholders	Community Services
<ul style="list-style-type: none"> • Gas Distribution Networks • Suppliers of welfare products • Yorkshire Energy Solutions • Northumbrian Water • Ofgem • Queen Alexandra College 	<ul style="list-style-type: none"> • Community Action Northumberland • Metropolitan Police • South Yorkshire Fire Service • Essex County Fire and Rescue Service • Rural England Community Interest Company • Leicestershire Police Against Scams

We engaged with a wide range of customers and stakeholders to understand how we can go beyond minimum standards to never leave a customer vulnerable without gas. We have summarised each activity, the questions asked (where applicable), the numbers involved, and a robustness score based on the following criteria:

Criteria	Robustness score		Relevance
The score shown is based on a combination of the robustness of the source information (judged on whether it was recent, direct and representative) and the relevance to this area.	<1.5	One or zero criteria met	Limited relevance
	1.5 – 2.0	Two criteria met	Significantly relevant and contributory
	>2.0	All criteria met	Highly relevant and contributory

We have two broad commitments in this area. We have scored each source against the following commitment area:

- C1 – Going beyond to strive to never leave a customer vulnerable without gas
- C2 – Personalising welfare facilities

Table 3 Engagement activities

Phase	Date	Source name	Source description	Questions asked	# of stakeholders	Score	
						C1	C2
Historical Engagement	Nov-18	Surveys following major loss of gas (Eye, Suffolk and Deanshanger, Northamptonshire)	<p>We surveyed 89 customers who had experienced major interruptions incidents in Deanshanger, Northamptonshire and Eye, Suffolk in order to understand their views of how we managed these incidents as an organisation and how we could improve the experience for future customers in a similar situation. These were over and above the standard CSAT and Rant and Rave surveys we send following works.</p> <p>Overall, customers were extremely positive about Cadent's response to the gas emergency with the vast majority saying that Cadent exceeded their expectations in this regard.</p>	Customers were asked about their awareness of Cadent prior to the incidents. Then, in relation to their experience of the incident itself, customers were asked whether they felt well informed, whether Cadent was communicative and responsive and what methods of communication were used. Their experience of Cadent representatives in the community was sought and whether they were found to be well-trained and professional. Customers were asked whether CIVS were appropriately supported during the incident. Finally, customers were asked for their overall impressions of Cadent and the level of trust in the organisation.	89	-	2.0
Discovery	Nov-17	2017 regional stakeholder workshops	<p>We held four workshops in different regions to seek feedback from key stakeholders on the early development of our business plan. Each workshop began with a short presentation, followed by roundtable discussions. Electronic voting was also used to ask stakeholders about preferred options.</p>	The workshops explored several topics, including safeguarding (e.g. PSR awareness, partnerships and innovation opportunities); the future role of gas and the decarbonisation of home heating. Cadent's general approach to its business plan was also discussed, for example the importance and coverage of the four outcome areas identified, the extent to which the plan should respond to the needs of specific customer groups or regions. - How strongly do you feel that networks should collaborate?	127	2.5	-

Discovery	Sep-18	Deliberative workshops	We delivered full day deliberative workshops in each of our regions to discuss what services customers find important, find our customer expectations of GDNs and gather feedback on our (at the time) four draft customer outcomes. The sessions began with information-giving and building knowledge of Cadent, then eliciting participants' views of services and priorities.	Participants were asked about their awareness of Cadent and expectations of a GDN. Participants were also asked for their views on the four draft outcomes in Cadent's business plan: keeping your energy flowing safely, reliably and hassle free; protecting the environment and creating a sustainable energy future; working for you and your community safeguarding those that need it most; value for money and customer satisfaction at the heart of all our services. The aim of the discussions was to shape these draft outcomes and identify any gaps.	206	3.0	2.5
	Oct-18	Domestic survey	We ran an online survey of a representative sample of our domestic customers (and non-customers). This aimed to test the findings of the earlier deliberative workshops and focus groups.	Participants were asked closed questions on 14 topics we could cover in the business plan (e.g. minimising leaks, affordability) and asked to rate how important they are. They were then asked more open questions about the level of importance and whether anything was missing from the list of 14. Finally, they were asked a multiple-choice question on their preferred engagement methods for the future.	2,332	2.0	-
	Oct-18	Public survey	We ran an online survey that anyone could take part in (so unlike the domestic survey, it was not a representative sample). This followed the same approach as our domestic survey, aiming to test the findings of earlier deliberative workshops and focus groups.	Participants were asked closed questions on 14 topics we could cover in the business plan (e.g. minimising leaks, affordability) and asked to rate how important they are. They were then asked more open questions about the level of importance and whether anything was missing from the list of 14. Finally, they were asked a multiple-choice question on their preferred engagement methods for the future.	165	1.5	-
	Oct-18	CIVS situations report	We interviewed CIVS and professionals working to support them (e.g. district nurses). We selected participants based on PSR needs codes and recruited via community organisations.	The interviews sought to understand what services were important to CIVS and what expectations such customers had of Cadent to safeguard them and accommodate their specific circumstances. Participants were also asked their views of the four draft outcomes in Cadent's business plan.	20	3.0	-

Discovery	Oct-18	Focus groups with hard to reach groups	We held focus groups with individuals considered 'hard to reach' in each of our regions. Each group contained 8-10 participants and lasted two hours. Participants covered three groups: urban customers with English as a Second Language, Future Generations and Non-Customers (predominantly from rural areas). These built on our previous deliberative workshops, whose voices could otherwise become 'lost within the crowd'.	Participants were asked what they expected of Cadent. The four draft outcomes for the business plan were shared with participants and they were asked for their views on these, what they wanted to see from Cadent and whether there were additional outcomes that Cadent should include.	57	2.0	-
Targeted	Feb-19	Cadent Customer Forum (February 2019) Safeguarding	The first round of customer forums was held at three locations (London, Manchester, Birmingham) involving 96 customers. The forums are designed to be ongoing conversations with customers, with engaged discussions around the role of Cadent within society. The first customer forum focused on safeguarding and supporting CIVS to inform these sections of the RIIO-2 business plan. Within these themes, we customer expectations and priorities.	Customers were asked what they expected from Cadent in relation to safeguarding, how Cadent should help CIVS. The forums also sought to explore customer priorities for safeguarding and the reasons for that prioritisation.	96	-	3.0
	May-19	Cadent customer forums (April & May 2019): Interruptions and Reinstatements	The third round of customer forums was held at four locations (Ipswich, London, Manchester, Birmingham) involving 104 customers. The forums are designed to be ongoing conversations with customers, with engaged discussions around the role of Cadent within society. The third customer forum focused on planned and unplanned interruptions and public and private reinstatements to inform these sections of the RIIO-2 business plan. Within these themes, we investigated how customers are impacted and what level of customer service they think we should provide.	Customers were guided through different questions about the current service during planned and unplanned interruptions and new ideas Cadent were considering around: communication, length of interruption, provisions and timeslots to get gas back on. Discussions on public reinstatement focused on: impact of public reinstatement on customers, communication, and multi-utility working. Discussions on private reinstatements focused on the quality and duration of works.	104	-	3.0

Targeted	Jun-19	CIVS, Phase 2	We commissioned Traverse to engage with 37 CIVS and professionals working with such customers to understand their needs and preferences to support our business planning process. The overarching key finding was that CIVS are individuals and, as such, have individual needs and preferences and should be approached on a needs basis. Organisations interviewed included, Maggie's Trust, Age UK and Disabled Living.	The interviews sought to understand the needs and expectations of Cadent to safeguard CIVS and accommodate their circumstances. Topics covered included identification, the PSR, partnerships, alternative cooking and heating solutions during interruptions, safety in the home, tailored services, engagement and communication.	37	-	3.0
	May-19	Stakeholder research	Accent carried our research on behalf of all the GDNs to understand how well the needs of CIVS are met by GDNs; and assess if additional/reviced GSOPs specifically for CIVS might be required. The research included a rapid desk review of existing evidence and 16 telephone interviews with stakeholders working with or in the interests of CIVS.	The desk review included assessment of reports available from GDN research, GDN strategies regarding CIVS and reports from other bodies working in the interests of these customers. Interviews looked to understand stakeholder views on vulnerability, the current GSOP targets and performance levels and if any improvements could be made. They also explored the potential for new GSOPs.	16	3.0	May-19

WTP	Feb-19	NERA & Traverse: Estimating Customers' WTP for Changes in Service during RIIO-2, 28 May 2019 (Stated preference)	We commissioned NERA and Traverse to design, implement and analyse a stated preference survey to estimate domestic and non-domestic customers' WTP for improvements in our service. Twelve different service attributes were considered. These covered issues relating to interruptions (probability, length and timeslots for restoration); the environment (leakage; green gas, clearing up disused sites); reinstatements (duration and number) and supporting the vulnerable and fuel poor (provisions during an interruption and connecting fuel poor to the network).	<p>The surveys consisted of twelve attributes related to the service provided by Cadent Gas, which were grouped into three sets of attributes to ensure customers were presented with a manageable number of attributes at any one time. Customers were asked to choose a preferred service package from several options in each of these areas, given the associated bill impact.</p> <ul style="list-style-type: none"> ▪ First set of attributes: <ul style="list-style-type: none"> – Restoring gas supply after short unplanned interruptions (3-24 hours); – How long the short interruption lasts; – Restoring gas supply after an unplanned interruption lasting more than 24 hours; and – Offering customers time slots for restoring gas supply; ▪ Second set of attributes: <ul style="list-style-type: none"> – Reducing the proportion of gas lost through leakage; – Proportion of gas that comes from green sources; – Clearing up disused sites; and – Reducing the number of excavations in roads; ▪ Third set of attributes: <ul style="list-style-type: none"> – Providing welfare services during interruptions; – Measures to address fuel poverty; – Connecting households in fuel poverty to the network; and – Reducing the length of time it takes to carry out work. 	3,103	-	3.0
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<p>WTP</p>	<p>Jul-19</p>	<p>NERA & Traverse: Triangulation by attribute, July 2019</p>	<p>We commissioned NERA and Traverse to produce a report which 'triangulates' the WTP evidence previously prepared through desk-based research and surveys. This brought together the conclusions from previous studies including: (1) the benefit transfer report, which used desk-based research to survey existing valuation evidence available from published sources; (2) the targeted benefit transfer study, focusing on estimating the economic value of extending the gas network to new customers; (3) the stated preference study; and (4) the revealed preference study focused on surveying customers about their experiences of actual gas supply interruptions. The objective was to draw on a range of estimates to improve the reliability of any business planning assumptions that we make.</p>	<p>N/A</p>	<p>0</p>	<p>-</p>	<p>3.0</p>
<p>Business Options Testing</p>	<p>Jun-19</p>	<p>Cadent customer forum, round 4, Traverse</p>	<p>We held our fourth customer forum in Ipswich, London, Birmingham and Manchester to get customers' views on their priorities on a range of issues. This cross section of customers discussed with various options (some proposed by us, some suggested by them) in a deliberative style session. Key topics discussed included: customer service, replacing pipes, reinstatement, interruptions, fuel poverty, carbon monoxide, decarbonising energy and becoming carbon neutral.</p>	<p>Participants were asked questions about a range of topics. On customer service, we explored what 'great' looks like. We also asked about timeliness and communication with respect to reinstatements. We also tried to understand the level and type of service customers want during an unplanned interruption, including views on provisions, length of time without gas, and timeslots for getting the gas turned back on. We also asked for views on our options for addressing fuel poverty and carbon monoxide.</p>	<p>200</p>	<p>3.0</p>	<p>3.0</p>

Business Options Testing	Aug-19	CIVS engagement, Traverse	<p>We commissioned Traverse to engage with 65 customers in vulnerable circumstances, through deliberative workshops and telephone interviews to understand their views on options for our business plan in relation to the protection of CIVS.</p> <p>The option with the highest target delivery levels (option 3) was chosen for raising awareness of the PSR and charity partnerships. Both options 2 and 3 were popular for staff safeguarding training and using innovation to support customers. The specific intention of this session was to ascertain the views of a different (typically hard to reach) group of customers to check if their views were consistent with other customer segments.</p>	<p>Participants were asked about their priorities. We also sought to understand whether business options for several commitments were ambitious enough and identify and understand reasons behind their preferences. The business options discussed related to PSR awareness, partnerships with other organisations, training of Cadent staff, innovation around new technologies and services, the duration of, and provision of services during, interruptions and supporting CIVS.</p>	65	3.0	3.0
	Aug-19	Workshops with customers in fuel poverty, Traverse	<p>We commissioned Traverse to engage with 83 customers in fuel poverty at deliberative workshops in Wolverhampton and Peterborough to understand their views on options for our business plan in relation to several areas of relevance to customers in fuel poverty or vulnerable situations. The option with the highest target delivery level (option 3) was chosen for each of CO awareness & action, priority safety checks and fuel poor solutions (including income & energy advice). The specific intention of this session was to ascertain the views of a different (typically hard to reach) group of customers to check if their views were consistent with other customer segments.</p>	<p>Customers were asked about their priorities. We also sought to understand their views on our business options in relation to carbon monoxide, proactive safety checks, addressing fuel poverty, PSR awareness, the length of, and provisions during interruptions.</p>	85	2.5	2.5

Business Options Testing	Aug-19	Cadent customer forum, round 5, Traverse	<p>We held our fifth customer forum in Ipswich, London, Birmingham and Manchester with 130 participants to get customers' views on their priorities on a range of issues. This cross section of customers discussed with us various options (some proposed by us, some suggested by them) in a deliberative style session. Key topics discussed included: minimum standards and compensation; options for raising PSR awareness; interruptions - both acceptable length and appropriate provisions; supporting CIVS; options for Cadent's objective to become a carbon neutral business, the merits of connecting off-grid communities; and roadworks information and communication.</p>	<p>Participants were asked questions about a range of topics. On minimum standards, customers were asked whether current standards and levels of compensation were appropriate. With respect to PSR awareness, customers were asked about their preferred package of options. For interruptions, we discussed which provisions customers feel Cadent should provide as a core package and how customers would like to be informed of the availability of those provisions as what an acceptable duration for interruptions was. We also explored if there is an appetite for Cadent's engineers to be trained to do minor pipe and appliances repairs. On environmental options, we discussed Cadent's commitments around becoming a carbon neutral business and the connection of off-grid communities. Finally, we discussed which communications methods customers prefer with respect to roadworks.</p>	130	3.0	3.0
	Aug-19	Public consultation, BOT, qualitative phase, Traverse	<p>We commissioned Traverse to conduct a survey of 2,605 members of the public to understand views on certain aspects of our business plan in each of the 4 outcome areas (environment, quality experience, trusted to act for society and resilience). The survey revealed strong support for utilities working together to minimise disruption and for outstanding customer service, as well as providing useful information on the relative importance to customers of different types of information and different environmental initiatives.</p>	<p>Participants were asked questions to understand their views and preferences on issues within each of the four outcome areas. On resilience, customers were asked which one single improvement we should make to reduce disruption the most. In relation to a 'quality experience', customers were asked what level of service they'd love the most and how much they'd be willing to pay to ensure a vulnerable customer could get enhanced help if their gas stopped working. On the environment, customers were asked their relative preference for initiatives to achieve carbon neutrality and eliminate avoidable waste to landfill. Customers were also asked how much they knew about the decarbonisation challenge. Finally, for 'trusted to act for society', customers were asked what the most important information to know about Cadent was and how we can help the customer / Cadent conversation flow. We also asked about their awareness of Cadent.</p>	2,605	2.0	-

Business Options Testing	Aug-19	Domestic and business surveys, quantitative phase, Traverse	<p>We commissioned Traverse to conduct a survey of more than 2000 domestic customers and more than 500 business customers to understand preferences between the different business options under consideration across 14 different service areas. The options presented combined service provisions e.g. educate 50,000 customers most at risk of CO poisoning and a monetary impact on the customer's annual bill. Across both the domestic and business surveys, the highest weighted average scores, supporting the options with the highest target delivery levels, were achieved in areas relating to safety and protection of vulnerable customers: responding to carbon monoxide incidents, repairing and replacing faulty appliances, helping vulnerable customers without gas and carbon monoxide safety.</p>	<p>Domestic and business customers were asked their preferred options (with varying degrees of delivery targets / cost) for 14 commitments:</p> <ol style="list-style-type: none"> 1. Carbon Monoxide Safety 2. Responding to Carbon Monoxide incidents 3. Repairing and replacing faulty appliances 4. Helping vulnerable customers without gas 5. Helping all customers without gas 6. Getting customers back on gas 7. Carrying out safety checks 8. Minimising disruption from our works 9. Tackling Fuel Poverty 10. Awareness of Priority Services Register 11. Priority Services Register training 12. Becoming a Carbon neutral business 13. Communities not currently connected to gas 14. Keeping the energy flowing reliably and safely 	2,547	3.0	3.0
	Aug-19	Workshops with customers in MOBs, Traverse	<p>We commissioned Traverse to hold workshops with 41 customers who live in MOBs and have experienced unplanned interruptions in the last 18 months in order to understand the specific issues facing such customers given the atypically long duration of their interruptions relative to other customers.</p> <p>Themes emerging from the workshops included: the importance of coordination with the Council / housing management and communication with residents; the need for consistent and personalised provisions; and the need to recognise that MOBs (and London) are more complicated.</p>	<p>Customers who live in MOBs and have experienced unplanned interruptions in the last 18 months were asked about their priorities. We also sought to understand their experience of unplanned interruptions in MOBs, and their preferences for improving the process, provisions during an interruption and compensation. Customers were also asked what factors should be prioritised when replacing mains pipes.</p>	41	-	2.5

Business Options Testing	Aug-19	Future generations workshops, Traverse	We commissioned Traverse to hold workshops with 45 'future generations' participants (aged between 13 and 18) to understand their priorities. This mainly involved younger people to specifically ascertain their input, given that decisions that we make in RIIO-2 will ultimately impact them. They supported the views of other customer segments but stressed more urgency and a higher priority on our EAP. Most saw this area as a core requirement (on their hierarchy of needs), whereas other customers saw it less as core and more as a psychological need.	Customers were asked about their priorities. We also sought to understand how they thought Cadent should best decarbonise their assets and services, and minimise environmental impact, how Cadent should best approach pipe replacement, their views of new proposals for length of interruptions, provisions and compensation for MOBs, and their views of our proposals to protect CIVS.	45	-	1.5
	Aug-19	Workshops with English as a second language customers (ESL) and non-English speakers, Traverse	We commissioned Traverse to hold three workshops with ESL and non-English speaking customers: 22 Polish-speaking participants with English as a second language and 9 Bengali speaking participants. During this session we asked customers to tell us what role they thought that we should play in relation to carbon monoxide safety, provisions during an interruption and responding to climate change. They agreed that communication was critical with respect to interruptions. For provisions, all agreed oil filled radiators were important, but there were interesting differences too: the Bengali group prioritised hot meal vouchers & kettles, both given low priority by the Polish group which favoured shower access & hot plates. They confirmed that they believed, we as other big businesses should be acting responsibly and seeking to reduce our carbon footprint. The specific intention of this session was to ascertain the views of a different (typically hard to reach) group of customers to check if their views were consistent with other customer segments.	Customers were asked about their priorities. We also sought to understand their views on our business options in relation to carbon monoxide, provisions during interruptions, and decarbonisation.	31	-	2.5

Business Options Testing	Aug-19	Business customer workshops, Traverse	<p>We commissioned Traverse to engage with 74 business customers through deliberative workshops to understand their views on options for our business plan in relation to a number of areas that would affect their businesses such as the supply and demand of gas, interruptions, reinstatements and minimum standards.</p> <p>One of the topics discussed was demand-side response. Many businesses said they could turn gas down or off to some extent but noted that education and awareness were critical.</p>	<p>Businesses were asked about their priorities. The future of gas, including decarbonisation, was also discussed in terms of business awareness of the issue and potential implications. The ability and willingness for businesses to reduce their demand under certain circumstances was also discussed.</p> <p>The impact of interruptions and reinstatements on their business was also explored including the need for provisions during interruptions, the desirability of timeslots when gas is switched back on, multi-utility working and communication.</p> <p>Businesses were also asked if they would be willing to pay for Cadent to go beyond minimum standards.</p>	74	-	2.5
	Aug-19	Employee workshop, Traverse	<p>We commissioned Traverse to engage with 80 Cadent employees (across grades and geographies) in a full day workshop. We sought views on our July draft business plan and held several exercises to gain input into further iterations. We gained several useful insights: influencing contractors was highlighted as a challenge for achieving carbon reductions, communication was noted as critical to great customer service, internal silos were highlighted as a barrier and some argued that greater ambition was possible for interruptions and reinstatements.</p>	<p>We sought views on our July draft business plan and held several exercises to gain input into further iterations. Topics discussed included: improving the environment (including future hydrogen and carbon neutral options), achieving a quality customer experience (including the length of, and provisions during, interruptions; and reinstatements); what trusted to act for society means and our obligations to customers and society; and safety and resilience (including our business plan options and how realistic / ambitious they are).</p>	80	-	2.5

Acceptability Testing	Oct-19	Phase 4 - Business interviews and surveys	We commissioned Traverse to test the acceptability and affordability of Cadent's proposed plan amongst business customers. This consisted of an on-line / face to face survey of 504 business customers and in-depth qualitative telephone interviews with 45 business customers. This showed that the plan had achieved high levels of acceptability and affordability from a business customer perspective.	Business customers were asked about the acceptability and affordability of Cadent's overall plan. If they said that the plan was unacceptable, they were asked to explain their response. If they said that it was neither acceptable nor unacceptable, they were asked what they would like to see in order to find it acceptable. Business customers were also asked to rate the acceptability of the outcome areas (environment, quality experience and resilience). Then, having learnt about the outcome areas, customers were asked as 'informed customers' to rate the overall acceptability and affordability of the plan.	549	3.0	3.0
	Oct-19	Acceptability testing - final survey report on domestic customers,	We commissioned Traverse to test the acceptability and affordability of Cadent's proposed plan amongst domestic customers. This consisted of surveying 4,446 domestic customers through on-line and face to face methods. This showed that the plan had achieved high levels of acceptability and affordability amongst domestic customers, including those who are fuel poor.	Customers were asked about the acceptability and affordability of Cadent's overall plan. If they said that the plan was unacceptable, they were asked to explain their response. If they said that it was neither acceptable nor unacceptable, they were asked what they would like to see in order to find it acceptable. Customers were also asked to rate the acceptability of the outcome areas (environment, quality experience and resilience). Then, having learnt about the outcome areas, customers were asked as 'informed customers' to rate the overall acceptability and affordability of the plan.	4,446	3.0	3.0
	Oct-19	Acceptability testing - focus groups with the general population	We commissioned Traverse to explore the acceptability of our plans and commitments in each of the three outcome areas (environment, quality experience and resilience) with 79 members of the public in regional focus groups. Participants were supportive of our plans for quality experience and resilience, but no consensus was reached on our environmental plans.	A group discussion was facilitated to discuss views on Cadent's plans in each of the three outcome areas and participants were also asked to complete a survey to rank levels of acceptability and affordability.	79	3.0	3.0

Acceptability Testing	Oct-19	Acceptability testing - customer forum	We commissioned Traverse to explore the acceptability of our plans and commitments in each of the three outcome areas (environment, quality experience and resilience) with 109 customers who had attended previous customer forums. Overall, participants found our plans to be both acceptable and affordable.	A group discussion was facilitated to discuss views on Cadent's plans in each of the three outcome areas and participants were also asked to complete a survey to rank levels of acceptability and affordability.	109	3.0	3.0
	Oct-19	Acceptability testing - focus groups with future customers	We commissioned Traverse to explore the acceptability of our plans and commitments in each of the three outcome areas (environment, quality experience and resilience) with 20 "future customers" (16-18-year olds) in 2 focus groups. Participants were supportive of our plans for the environment and resilience but questioned whether helping vulnerable customers was part our remit.	A group discussion was facilitated to discuss views on Cadent's plans in each of the three outcome areas and participants were also asked to complete a survey to rank levels of acceptability and affordability.	20	3.0	3.0
	Oct-19	Acceptability testing - interviews with CIVs	We commissioned Traverse to explore the acceptability of our plans and commitments in each of the three outcome areas (environment, quality experience and resilience) by interviewing 20 CIVs. Overall, our plans were supported, and all found the plans affordable.	Throughout the interviews the CIVs were explained the elements of the plan, asked to comment on whether they found each outcome acceptable, which particular elements were important to them, and whether they had any additional comments. They were also asked whether the new business plan was affordable.	20	3.0	3.0
	Oct-19	Acceptability testing - fuel poor focus groups	We commissioned Traverse to explore the acceptability of our plans and commitments in each of the three outcome areas (environment, quality experience and resilience) with 35 customers in fuel poverty in regional focus groups. Overall, participants were supportive of our plans in all three areas.	A group discussion was facilitated to discuss views on Cadent's plans in each of the three outcome areas and participants were also asked to complete a survey to rank levels of acceptability and affordability.	35	3.0	3.0
	Oct-19	Verve business plan consultation	We commissioned Verve to gather views on our plans to reduce our carbon footprint from 25 customers. We did this through an online forum with customers and stakeholders to discuss the key components that we shared on our EAP. This included our intentions to support our employees to make a positive difference to tackling climate change.	Participants were asked about their awareness of Cadent, discussed the three outcome areas (environment, quality experience and resilience), discussed the bill impact breakdown (both at present and as a result of the plan), risks and uncertainties and innovation funding.	25	2.0	2.0
	Nov-19	Verve acceptability testing stakeholder interviews	We asked Verve to interview a small number of expert stakeholders and ask for feedback on our plan	We shared a summary of our October plan with stakeholders and asked them for feedback.	5	2.0	2.0

1.4. Engagement feedback and insights

Engagement on this topic showed us that our customers value and expect additional services and support in instances of gas interruptions and that we can provide them with a range of services to ensure they are taken care of and feel safe. Insights have clearly shown that safety is of the highest priority and should be our primary focus area for vulnerable customers. We should never leave CIVS without any support and always strive to protect them by providing additional support.

Services beyond the meter should be targeted to CIVS

Interviews with 13 CIVS highlighted ways in which those experiencing vulnerability could be disproportionately impacted by interruptions, for example by not being able to go out to get replacement food or needing hot water because of a medical condition. Therefore, services beyond the meter such as repair or replacement of unsafe appliances should be targeted to these customers.

Most participants in our deliberative workshops with 206 customers stressed that people in vulnerable situations and businesses that depend on gas should always be protected. The disproportionate impact on CIVS was further corroborated at our stakeholder workshop in Birmingham.

Making referrals, including customer consent

When making referrals for repair or replacement of customer appliances, several stakeholders at the CIVS stakeholder workshop felt it is important to establish simple referral routes for engineers to use both internally at Cadent and externally with the various organisations and systems (which are complex and different in different areas). Some suggested having an internal system where simple and quick referrals are made by engineers to a main hub within Cadent, who then know the various links across the areas and do the work of referring customers, or discussing cases, externally.

It was acknowledged that decision-making can be subjective and based on 'common sense' or intuition i.e. 'something not feeling right'. A couple deliberated on how much engineers should be probing and how much training would be required to enable them to ask the correct questions to make assessments or informed decisions. One commented that engineers would need to feel supported.

One professional advises that a decision needs to be taken by Cadent around the degree to which they take responsibility, whether they make referrals, and the systems in place for doing so. Training engineers but not giving them the resources to act, or vice versa, would lack value. There are two routes: policies and procedures, and soft skills such as active listening and conversational skills (which go a long way when dealing with vulnerable groups). Both are felt to be required to make the exercise valuable.

We also discussed what would make a customer feel comfortable or uncomfortable with being referred to a local organisation. Generally, their feedback was to be clear, explaining what would be done, why, how it would benefit them, and to gain their consent. If there is not a safeguarding or safety concern and the recommendation is based on observations of vulnerability, then consent should be respected. However, if there is an urgent safeguarding concern there is a strong case for referring with or without consent, though the customer should be informed, and consent should be sought if possible.

During customer focus groups, when asked what would make them feel comfortable with being referred, customers largely spoke about trust with the engineer (knowing what they were being referred to and why), consent (feeling they were involved the decision) and knowledge (knowing about the organisation they were being referred onto). One stressed the importance of not feeling under pressure to agree to it, and another the importance of choice (e.g. having a choice of several organisations).

Proactive safety checks

Proactive safety checks were seen by some of the 200 participants at our fourth customer forum as a positive initiative for vulnerable customers, with one participant framing it as a preventative measure, while another felt it was a good channel for advice to vulnerable customers as well. While there were some individuals who felt

safety was a right for everyone, overall there was a lot of opposition to a programme of safety checks aimed at everyone.

A lot of participants voiced concerns that this would be moving away from Cadent's core responsibilities. While staff identification and validation was often raised by participants as necessary to avoid the safety checks performed by Cadent engineers being confused with other door-to-door scams, some participants even felt this would be insufficient, as ID's could be faked. There was a strong sense that an opt-out approach was very inefficient, for reasons ranging from customers being out when Cadent called, to the time wasted offering checks to customers who didn't want it.

For keeping CIVS safe in their homes, professionals at the CIVS workshop highlighted accessibility and whether someone has the capacity to remember to service appliances, and whether they have access to the relevant information to get an appliance serviced.

Many professionals felt that the CIVS they support would benefit from free home safety checks, largely because, they may have limited awareness or lack the resources to arrange for safety checks to be carried out without support, and to provide peace of mind in the knowledge their environment is safe (which could have significant positive impacts on many of these customers). Several professionals felt the key element of this service would be promotion, and one felt that a key consideration would be promoting it in a way that enables the customer to easily take up the offer.

Continuity for vulnerable customers and welfare services

Although some customers we engaged during workshops and our customer forum on interruptions and reinstatement told us they were prepared to accept some disruption as a natural consequence of maintaining a reliable gas network, in winter there is a marked reduction in acceptability.

Our deliberative workshops in North London and East Anglia revealed that customers felt Cadent had a responsibility to provide some support to customers during gas interruptions (e.g. meals). In particular, CIVS should be provided with welfare services. 19% of participants in our London stakeholder event also suggested that we provide alternative cooking and heating provisions.

Tailored services based on customer needs

The CIVS study, with 40 participants, further revealed that CIVS have individual needs and preferences. As such, support should be given on an individual basis.

Overall, professionals experienced in the area who were interviewed as part of the CIVS study, as well as the 104 customers engaged through the forum on interruptions and reinstatements, felt that alternative heating and cooking solutions during interruptions were 'very important', although the level of urgency depended on the duration of the interruption. On the other hand, the 96 customers in the safeguarding forum had differing opinions on whether Cadent is responsible for ensuring that customers stayed warm through providing electric heaters or even hotel accommodation. Customers did not expect Cadent to provide cooking solutions, although a few suggested hot plates.

The CIVS study highlighted examples of appropriate support that would be relevant for many customers: a point of contact for help during an emergency, alternative communication methods such as Skype, text messages, videos, British Sign Language and foreign language interpreters.

Participants at the Traverse workshops, with 31 ESL and non-English speakers ranked 'Supporting CIVS' highly. Participants highlighted the importance of helping CIVS or those than cannot afford their bills, some commenting that helping communities and charities is one way to achieve this. Many commented on the importance of receiving heating provisions in the winter and food vouchers or compensation for any extra costs incurred (such as increased electricity bills). Other participants expressed that they would not require heaters, blankets or other provisions for 24 hours, if at all, and could instead stay with friends.

Participants from all three workshops viewed heating as the most important, especially during winter, with a preference for oil-filled heaters over electric heaters. Provisions ranked as less important by all participants included seat warmers and groceries. Some participants favoured vouchers for hot meals (rather than hot plates) whilst others saw grocery vouchers as only having 'good-will' merit rather than being a priority.

Access to bathing facilities was seen as the second most important provision by participants, particularly for families. Many participants also ranked provision of hot plates for cooking as high priority, although some commented that they could use their microwave or eat food that doesn't require heating instead for up to 24 hours. Some participants highlighted that additional kettles would be useful for boiling larger amounts of water, which would help with washing.

In addition, participants suggested money off electricity bills to compensate for additional electricity use and the use of interpreters for non-English speaking households when bringing provisions to customers. Electric showers and hot water bottles were viewed as good ways to keep customers warm. Take-away vouchers were also suggested instead of hot meal vouchers to prevent having to go out for meals. Some participants suggested removing the charge for gas and service from the gas bill during the interruption.

At the August 2019, future generations workshops, the 41 participants rated 'supporting CIVS' highly.

Participants emphasised that services should be tailored to the nature of the individual and include the provision of B-Warm heated seat covers, Easy Assist emergency control valves, Bluetooth Beacons, and locking cooker valves. Additionally, hospitals and care homes may be appropriate alternative accommodation for some customers, while hotels may be more appropriate for others. This was echoed in the forum on interruptions and reinstatements, where some customers said that temporary accommodation and facilities were a requirement, and others suggested that they would not want to use gym facilities even if they were available.

Participants in our August 2019 CIVS engagement suggested that meals should be provided only for those with gas cookers, a hotel room should be provided if the interruption lasts for several days and heaters should only be provided in winter. Reimbursement for gas bills or a free gas supply period were also suggested.

Welfare services for businesses impacted by interruptions

At the August 2019 workshops, with 74 business customers, participants generally felt it was more important to reduce the length of interruptions than to provide provisions for businesses, especially as some already have contingencies or recovery plans that consider the loss of heating, hot water and gas. Business customers support prioritising high-risk or high-dependency organisations, suggesting the use of a database for knowing where to focus efforts. Generally, participants did not expect Cadent to provide business provisions and felt they would be unable to provide suitable provisions. Although, a few liked the idea of providing heaters (and covering resulting electricity costs).

A few participants suggested an optional provisions scheme, so some businesses can choose to keep their bills cheaper. Participants felt that the need for provisions would depend on the business and their dependency on gas. Participants expected Cadent to prioritise businesses reliant on gas (such as nursing homes), offering a tailored approach based on specific needs. Others suggested keeping costs down by collecting and reusing appliances at the end of the interruption.

Good communication and information sharing with customers in cases of loss of gas incidents

Two surveys with 89 customers following major loss of gas incidents painted a positive picture of Cadent's performance during the interruptions. In both cases, only a minority of customers were aware of Cadent before the incident (around 20% in Eye and less than 5% in Deanshanger). However, once customers understood there was a problem, the vast majority felt well-informed (over 85% in Eye and over 90% in Northamptonshire).

More than 80% of the 65 Deanshanger respondents strongly agreed that Cadent responded well to questions from the community and more than 70% of the 24 respondents in Eye. In both cases, more than 90% of respondents strongly agreed that Cadent communicated well using social media. However, views as to whether

Cadent used leaflets and letters effectively were more mixed, particularly in Eye, where more disagreed than agreed, with just over 60% agreeing in Deanshanger.

Face-to-face communications were rated more positively, with 80% of Deanshanger respondents strongly agreeing that Cadent representatives communicated well in person, with 65% in Eye. 95% of Deanshanger respondents and 83% of Eye respondents strongly agreed that Cadent representatives were professional, and in both cases, more than 90% strongly agreed that they were courteous.

Most respondents thought that Cadent's response to the emergency exceeded their expectations (more than 90% in Deanshanger and more than 80% in Eye). All but three respondents said that they trusted Cadent to keep the energy flowing to their home; those three said that they trusted Cadent 'a bit'.

Additional services Cadent could provide

Finally, customers engaged in the forum on interruptions and reinstatements had a wide variety of preferences on when support should be offered, ranging from within 2 hours of an incident to after an interruption has continued for over 24 hours. This is another indicator that support should be tailored to the needs of the customer, rather than a 'one-size-fits-all' approach.

The results were also confirmed by our 18 interviews and surveys of 504 business customers. Human health and social care organisations expressed greater concern over interruptions to supply than other businesses did, as they could impact the vulnerable people in their care. Some commented that Cadent should focus on alternate provisions for CIVS.

Most of the 85 customers in fuel poverty that took part in workshops felt that supporting CIVS was very important, although some thought that this was beyond Cadent's remit and was rather the responsibility of the public sector. With regards to Cadent repairing and replacing faulty appliances free of charge, some participants agreed that there should be a special focus on vulnerable customers. With regards to welfare provisions in the event of an interruption, the season was relevant, with more provisions needed in winter and kettles and showers seen as the most useful.

Participants thought that most people would have a microwave for cooking. While participants acknowledged that vulnerable customers would have a greater need for welfare provisions, they thought that these should be provided to all, as everyone will be paying for it on their bills. Participants were also worried about abuse of the system.

Review of GSOP 3 – Alternative welfare provisions minimum standard

The joint-GDN Accent research into the guaranteed minimum standards revealed that stakeholders believed that generally customers experiencing vulnerability are well served by the Gas Networks and the RIIO framework has been effective in embedding good practices for vulnerable customers. GSOPs are viewed as critical in providing a safety net for the intersection between vulnerability and the absence of network support.

However, stakeholders explained that GSOP 3 could still be improved in the following ways:

- Compensation payments should be automatic wherever practicable: requirement to make a claim is an unnecessary barrier
- Provision of hot food GSOP considered a good idea for those experiencing most acute forms of vulnerability, particularly if mobility difficulties or physical/mental capacity prevent use of alternative facilities
- Alternative accommodation can be appropriate in some circumstances (particularly during extended interruptions/problems of access) but seen as too specific to individual cases to be suitable as a GSOP
- Widespread support for increasing compensation levels
- Exclusion period could compound the problem for some vulnerable customers. (e.g. night time exclusions can cause more problems for customers with strict routines). Times should be seasonally adjusted (most impactful in winter).
- Customer awareness of GSOPs needs to be raised

Employee suggestions for improvement

A few participants at the employee workshops suggested that where provisions require electricity, Cadent would need to compensate customers for increased electricity bills. Some participants suggested that external bodies may be able to help with CIVS. One group noted that Community Liaison Officers (CLOs) could play a useful role. Some participants suggested that Cadent follow up with customers to make sure the provisions are working and that customers have what they need. A few participants felt that the main challenge is providing hot water, which some considered as the most important provision.

The suggestion of providing temporary accommodation stimulated diverse discussions. One group suggested that instead of paying for accommodation, Cadent could support customers with claiming home insurance, perhaps working with insurance companies. One group suggested partnering with food apps rather than paying for people to eat out but come back to a cold house.

Customer WTP for welfare provisions

Our partners NERA and Traverse conducted a stated preference survey with 3,103 domestic and non-domestic customers to estimate customers' WTP for improvements in our services.

The scaled domestic WTP for the provision of welfare services during interruptions was zero for offering further facilities to customers known to be in vulnerable situations, £2.82 for offering facilities for customers believed to be in vulnerable situations and £3.48 for offering facilities and providing additional services such as restoring supply before other customers.

For non-domestic customers, the scaled WTP was zero, but there was evidence of WTP for offering facilities and providing additional services, such as restoring supply before other customers of £10.33, which provides an upper bound valuation.

NERA and Traverse were then commissioned to 'triangulate' the WTP evidence prepared. Valuations were assigned to different service levels per customer per year, on average across all regions. The three service level ranges were defined as follows:

- (0-1): move from current minimum standards to offering further facilities to customers known to be in vulnerable situations
- (1-2): move from offering further facilities to customers known to be in vulnerable situations to offering further facilities to customers believed to be in vulnerable situations
- (2-3): move from offering further facilities to customers believed to be in vulnerable situations to offering alternative facilities and do more such as restore supply more quickly.

As a result:

- For the (0-1) service level for domestic customers, the low and central case valuation was zero and the high case valuation was £0.84.
- For the (1-2) service level for domestic customers, the low and central case valuation was £2.82, and the high case valuation was £4.89.
- For the (2-3) service level for domestic customers, the low and central case valuation was £0.66, and the high case valuation was £1.60.
- For non-domestic customers, the only non-zero valuations were £5.21 for the high-case for service level (1-2) and £5.12 for the central and high cases for service level (2-3).

There were some regional variations with domestic customer WTP higher than average in North London, North West England and the East of England, and lower than average in the West Midlands. There were no variations across regions for non-domestic consumers.

Summary of insights

We have gained a number of insights from our historic experience and our targeted engagement for RIIO-2. This output case focusses on services we can provide to minimise the impact of a gas supply interruption, whilst other parts of our business plan address some of the other insights and we have indicated this in the table below.

Table 4 Summary of insights

Feedback/Insight	How we have addressed this
<p>Most customers stressed that people in vulnerable situations should always be protected in the event of a supply interruption.</p>	<p>Today customers registered on the PSR and any other CIVS are always prioritised by our teams in the event of an interruption. Our proposals in RIIO-2 to provide additional services during a gas supply interruption, including welfare provisions and appliance repair/replacement, will also be targeted towards CIVS as we recognise the impact is greatest for these customers.</p>
<p>Stakeholders highlighted the importance of establishing simple referral routes for engineers to use both internally at Cadent and externally with the various organisations and systems.</p>	<p>As part of our proposals to provide services beyond the meter we will build on the good work we have delivered with National Energy Action and develop the relevant criteria and systems to support our engineers in making referrals whilst also ensuring customers are comfortable and in control throughout the process.</p>
<p>Stakeholders acknowledged that decision-making can be subjective and based on 'common sense' or intuition i.e. 'something not feeling right' and therefore engineers should be supported with the right training and tools.</p>	<p>In delivering additional welfare provisions and services beyond the meter, we will ensure that clear processes are defined and supported with appropriate training, technology and systems.</p>
<p>Customers were prepared to accept some disruption as a natural consequence of maintaining a reliable gas network, in winter there is a marked reduction in acceptability.</p>	<p>Repairs to our network following an emergency gas escape, new connections and works to improve our network are essential to keep customers and communities safe. However, they often require us to interrupt customers' gas supply. We appreciate that customers are forgiving that sometimes supply interruptions do need to happen, but we aim to ensure that the likelihood of interruptions and the duration when they do occur are reduced in RIIO-2. See Appendix '07.03.06 Getting our customers back on gas' for more information.</p> <p>Unplanned interruptions are unpredictable and occur throughout the year, however to ensure we are more responsive during winter our emergency and repair teams run seasonal patterns with more capacity in these colder months. Annualised hours are a feature of our new staff terms and conditions we agreed for 2019 onwards. This gives us the flexibility to implement longer winter hours when we need to.</p>
<p>CIVS have individual needs and preferences. As such, support should be given on an individual basis.</p>	<p>Our vulnerability strategy brings together PSR awareness, tackling fuel poverty, CO awareness and going beyond to support CIVS during an interruption. This strategy ensures that we are able to identify the needs of individuals and tailor the services we offer.</p>

	<p>This appendix very much focuses on the individual and understands the needs of a wide range of customers when a supply interruption occurs before developing our tailored commitments to stretch ourselves and go beyond minimum standards for RIIO-2.</p> <p>As part of our commitment to provide personalised welfare services we will develop a decision making application which considers individual customer needs so engineers and customers can be informed on which products and services best suit these needs.</p>
<p>Professionals experienced in working with CIVS felt that alternative heating and cooking solutions during interruptions were 'very important', although the level of urgency depended on the duration of the interruption.</p>	<p>As a minimum standard we offer alternative heating and cooking provisions to CIVS during an interruption (GSOP 3). For RIIO-2 we want to go beyond this and stretch ourselves by offering bespoke, tailored welfare provisions to CIVS (not just those registered on the PSR). The level of provisions offered will be tailored and correlate to the length of the interruption to ensure CIVS are protected for the duration.</p>
<p>CIVS highlighted examples of appropriate support e.g a point of contact in an emergency, alternative communication methods e.g. text messages, videos, British Sign Language.</p> <p>CIVS suggested that hospitals and care homes may be appropriate alternative accommodation for some customers, while hotels may be more appropriate for others.</p>	<p>For RIIO-2 we want to make our services and communications more accessible and inclusive. To see more information on how we will achieve this, see our output Appendix '07.03.05 Measuring and enhancing accessibility and inclusivity'.</p> <p>During a supply interruption, any alternative accommodation for CIVS will be assessed on a case by case basis to ensure we are meeting the needs of the individual whilst not placing a strain on local services.</p>
<p>Some customers highlighted the importance of receiving heating provisions in the winter and food vouchers or compensation for any extra costs incurred. Other participants saw grocery vouchers as only having 'good-will' merit rather than being a priority. Access to bathing facilities was seen as the second most important provision and whilst some customers explained that additional kettles would be useful for boiling larger amounts of water.</p>	<p>We want to offer bespoke, tailored welfare provisions to CIVS during a supply interruption in RIIO-2. This means we will work to identify needs and ensure we provide the most appropriate provisions for each individual. As part of our commitment to provide personalised welfare provisions we will extend the scope of what we offer today and develop a decision making tool which considers specific customer needs, time of year and the length of the interruption so that customers are provided a choice of services which best suit their individual needs. The scope of welfare provisions will include large electric kettles, food vouchers and access to bathing facilities in addition to a number of other products and services.</p>
<p>Business customers generally felt it was more important to reduce the length of interruptions than provide provisions for businesses, especially as some already have contingency plans.</p> <p>Business customers felt that the need for provisions would depend on the business and their dependency on gas. Participants expected Cadent to prioritise businesses reliant on gas (such as nursing homes), offering a tailored approach based on specific needs.</p>	<p>We are committing to reducing the length of interruptions for all types of customers. Please see output Appendix '07.03.06 Getting our customers back on gas' for further information on our RIIO-2 commitments.</p> <p>As previously discussed, we always consider the needs of communities, including local businesses, in areas where we are carrying our major works. We carry our site surevys to understand the impact of local services and will always try to tailor our support</p>

	<p>services to meet the needs of businesses to help minimise the impact of a gas supply interruption. Our proposals to minimise disruption on site will also enable a better experience for specific customers including business customers. See Appendix '07.03.08 Minimising disruption from our works' for more information.</p>
<p>Customers in fuel poverty agreed that when repairing or replacing faulty appliances, there should be a special focus on CIVS.</p>	<p>We are pleased that customers in fuel poverty are supportive of our plans to offer appliance repair or replacement as part of our commitment package. Our intention is to prioritise CIVS when offering this service when we carry out our emergency visits.</p>
<p>Customers voiced concerns that offering proactive safety checks would be moving away from Cadent's core responsibilities.</p>	<p>We are mindful of customers concerns around us offering proactive safety checks as an additional commitment in RIIO-2. We would consider offering the checks via partnership working, therefore using experts in this field to deliver the checks on our behalf. This offering will be explored further in this appendix, taking into consideration results from our customer testing.</p>
<p>Some customers proposed the idea of Cadent covering the additional electricity costs associated with alternative heating and cooking provisions which tend to be higher than gas-related appliances.</p>	<p>We are conscious that alternative electricity products could lead to higher energy costs for customers during the interruption. Therefore we will offer a wide choice of products and services to ensure customers are not forced to take up electricity products only (e.g. temporary accommodation or food vouchers). Due to the complexity in understanding the potential increased electricity cost associated with the interruption, we will not be offering to cover these costs.</p>
<p>Stakeholders suggested improvements to GSOP 3 including increased compensation, automatic payments, and increased scope of services such as hot meals or temporary accommodation.</p>	<p>We recognise that GSOP has not been updated since 2008, therefore we are working with Ofgem and GDNs to make the relevant updates. For GSOP 3 this means increased compensation in line with inflation and automatic payments. We agree that CIVS should be offered a greater choice of services but based on other insights these services should be bespoke and based on individual needs. Our proposals beyond this minimum standard acknowledges this and we have explored a wider range of services which include provision for hot meals and temporary accommodation.</p>
<p>Findings from our customer experience surveys of incidents in Deanshanger and Eye showed the importance of effective communication, keeping customers informed and using social media. Based on the findings, we could have made better use of leaflets and letters during these incidents.</p>	<p>We value the feedback we get from our customers during large incidents and are always looking to improve our performance. For RIIO-2 we want to enhance the accessibility and inclusivity of our services and communication. For more information on this, see our output Appendix 07.03.05. 'Measuring and enhancing accessibility and inclusivity'. We are also looking to make stretching commitments on how we minimise any disruption resulting from our works. For more information on this, see output Appendix 07.03.08 'Minimising disruption from our works'.</p>

2. Assessing the measurement options



2.1. How is it currently measured

In RIIO-1, there are no specific regulatory output measures related to ‘going beyond to never leave a customer vulnerable without gas’. However, we do have licence obligations and minimum standards to protect domestic customers, specifically those registered upon the PSR.

Standard Special Condition D13 requires us to provide services for specific domestic customer groups (including agreeing on a password for easy identification during works), provide facilities which enable any domestic customer who has additional communication needs to ask or complain about any service provided, and share relevant information with suppliers.

GSOP 3 requires us to provide customers on the PSR with alternative heating and cooking facilities during an interruption to the gas supply. When we fail to do this, we must compensate them £24.

How do current measures deliver against customer outcomes and priorities

GSOP 3 is the only relevant measure in place for RIIO-1 that supports CIVS during a supply interruption.

Strengths – GSOP 3 provides a minimum standard to ensure that customers receive a set level of service during a supply interruption. If networks fall below this standard, then customers are entitled to compensation.

Weaknesses – The current GSOP 3 measure is limited and does not ensure that CIVS have a positive experience during a supply interruption. The GSOPs have not been reviewed or updated since 2008, so performance and compensation levels will likely be out of line with current customer expectations. At present, if a network fails GSOP 3, the customer has to actively request compensation rather than having it paid automatically.

2.2. Assessing good practice

Alternative welfare services

A reliable gas supply is essential for most customers and an interruption in supply can have a significant impact, especially if there is a greater reliance on gas, the customer is in a vulnerable situation, there is cold weather or the interruption lasts for a long time. While GDNs have an obligation to provide alternative heating and cooking provisions to customers on the PSR, there are several additional alternative welfare provisions that can be provided to ensure customers can stay warm and comfortable. Figure 1 shows some examples.

Figure 1 Welfare examples



Oil filled radiators provided in addition to the normal fan heaters supplied at point of disconnections



Large commercial style electric kettles provided to aid provision of hot water where required



Thermal or electric blankets provided to ensure customers can keep warm



Rechargeable portable shower



Mini oven, grill and double hotplate provided in addition to normal boiling ring



B-Warm temperature controlled heated seat cover



Free meal and drink vouchers to allow customers to have access to a hot meal during the interruption



Temporary accommodation for lengthier interruptions lasting over 24 hours



Free gym memberships to allow customers to have access to shower facilities and other amenities

Our provisions offering for CIVS may change during RIIO-2 as we move through our innovation programme to develop new products and services that cater for specific needs. See output Appendix '07.03.09 Identifying your needs and joining up support services' for more detail.

Supporting vulnerable customers with appliance or installation problems

When our engineers are called out to an emergency gas escape, we will first make our customers safe and then seek to restore their gas supply. Although we complete the required works to get gas flowing back to the customer's meter, there are often occasions when their appliance or installation is unsafe, and we are required to isolate either the appliance(s) or the whole installation. This is separate to if we are called out to a suspected case of Carbon Monoxide.

On those occasions where we are required to isolate a customer’s appliance or installation, we usually ask customers to get in touch with a GSRI to organise their own follow-on work, which is their responsibility. This means the customer may be unable to use the gas supply to warm their home, cook food, and have warm showers until internal repairs have been made. This can be particularly difficult for CIVS.

In our West Midlands network, we have partnered with the fuel poverty charity, National Energy Action (NEA), to help vulnerable customers during these situations. Under this scheme, our engineers are able to contact NEA’s partner (Act on Energy) to assist the customer. Act on Energy undertakes an affordability and vulnerability assessment with the customer to establish if they are entitled to support. This includes financial assistance to cover the cost of internal repairs or appliance replacement and linking up the customer with local GSRI’s. Where the customer consents, Act on Energy will complete other steps to support them with additional benefits checks, provide energy efficiency advice and register them on the PSR if required.

Over two years, through this scheme, we have repaired or replaced approximately 500 gas heating and hot water appliances (including fires, boilers and internal pipework). This approach has allowed us to support CIVS with appliance or installation-based problems, where the work required is complex or whole appliance or system work is needed.

2.3. What options have we considered

Defining objectives

Reflecting on the insights we have received from our customers and stakeholders and best practice across the industry, we have defined the objectives that the output measures in this area should deliver in RIIO-2:

Table 5 Defining the objectives

Objective	Business insights	Customer and stakeholder insight/feedback	Best practice	Strategy / Policy
Ensure CIVS are prioritised and receive an additional level of focus/service	Our RIIO-1 experience informs us that an interruption has a greater impact on customers living in vulnerable situations.	Customers and stakeholders have informed us that CIVS should be prioritised above others.		Ofgem has highlighted the importance of vulnerability and a focus area for RIIO-2.
Provide personalised bespoke services for individual needs	In RIIO-1, we have provided additional services beyond the minimum during large incidents and interruptions in MOB’s to satisfy individual needs.	Additional services to safeguard customers should be bespoke to the individual needs of customers rather than applying a one-size-fits-all approach.	There are a number of welfare services that can be provided to customers – customers should have the choice to select which works best for their needs.	
Ensure services beyond the meter target the most vulnerable customers		Insights inform us that services beyond the meter should target those customers who would not act if we left them due to affordability and/or vulnerability.		Stakeholders are concerned that services beyond the meter may be beyond the role of networks, therefore should focus on the most vulnerable.

Table 6 Options we considered

Option 1: Maintain the status quo – Comply with minimum requirements	
<ul style="list-style-type: none"> Welfare provisions – Provide hot plates and fan heaters for customers on the Priority Services Register during an interruption as per GSOP 3 with enhancements including automatic compensation payments and increased compensation in line with inflation. Provide additional welfare services such as accommodation and shower facilities on an adhoc basis based on capacity and customer need. 	
Assessing the merits and drawbacks	
Pros	Cons
<ul style="list-style-type: none"> Provisions reduce the impact of an interruption for customers on the PSR Today, we do sometimes go beyond the minimum requirement especially during major incidents and lengthy interruptions. 	<ul style="list-style-type: none"> Largely ignores customers not on the PSR who are vulnerable or who would benefit from support Does not go beyond the minimum requirement consistently, leaving many customers vulnerable without support.
Potential unintended consequences	
<ul style="list-style-type: none"> No additional measures are put in place to support CIVS during a supply interruption therefore the customer experience delivered does not improve and some customers are still left in a vulnerable situation without gas. Potential unfair treatment as some customers may receive additional support (beyond the minimum requirement) whilst other don't due to lack of a systematic and standardised approach . 	

Option 2: Improved welfare and services beyond the meter	
<ul style="list-style-type: none"> Welfare provisions - Provide hot plates and fan heaters for customers on the Priority Services Register during an interruption as per GSOP 3 with enhancements including automatic compensation payments and increased compensation in line with inflation. Provide additional welfare services such as accommodation and shower facilities on an adhoc basis based on capacity and customer need. Minimise the isolations we cause to customers –Undertake minor internal repair work wherever possible to reduce the isolation impact on customers and isolate at meter only where absolutely necessary. All customers would remain responsible for the follow-on repairs or replacement work where required. 	
Assessing the merits and drawbacks	
Pros	Cons
<ul style="list-style-type: none"> Provisions reduce the impact of an interruption for customers on the PSR and those who may benefit from provisions but are not on the PSR Improved services beyond the meter Enables us to reduce the number of customers we may leave vulnerable without gas. 	<ul style="list-style-type: none"> May not provide sufficient provision, especially those off for much longer periods There may still be a significant number of customers who are left off-gas as they require major internal repair works which our engineers are unable to deliver Does not provide support to any customers with follow-on work post isolation.
Potential unintended consequences	
<ul style="list-style-type: none"> Some customers may abuse the offering of additional welfare provisions if they are not in a legitimate vulnerable situation Pressure on Cadent workforce to deliver additional activities (e.g. appliance repairs) that they may not have sufficient time allocated for on the job Additional welfare services create additional environmental waste at the end of their life/use. 	

Option 3: Enhanced bespoke welfare provisions and joining up the industry	
<ul style="list-style-type: none"> Welfare provisions – Provide an enhanced, bespoke welfare package to all CIVS and align to the needs of customers and PSR categories. <ul style="list-style-type: none"> Personalised welfare provisions to keep warm and have hot showers (e.g. hot plate, fan heaters, oil-filled radiators, kettle, seat warmers, temporary electric shower). Advanced on day payments at the door (approximately £10-£30 payments or vouchers) per impacted resident for hot meals for each night off-gas. Temporary accommodation or hotels on a needs basis for particularly vulnerable customers 	

<ul style="list-style-type: none"> ○ Development of a systemised procurement and supply process to ensure customers obtain products and services efficiently and on time ○ Engineers trained in identifying and recognising vulnerability and what is required to meet specific needs ○ Development of a decision making application which considers customer needs, time of year and length of interruption to provide a choice of welfare services suited to specific CIVS. ● Joining up the industry – Extend the skills of the workforce to minimise the impact of isolations on customers <ul style="list-style-type: none"> ○ Improve the connection between customers and gas safe registered engineers through coordination with charities ○ Improve the communications with vulnerable and fuel poor customers around charitable or other funding sources for support with paying for work on their appliances or installation ○ Train our workforce to undertake appliance repair and replacement work following the condemnation of unsafe appliances or installations ○ Undertake a proactive summertime programme of customer installation and appliance safety checks, targeted at hot-spot areas and PSR customers, to proactively shift any avoidable interruptions of gas services away from the winter. 	
Assessing the merits and drawbacks	
Pros	Cons
<ul style="list-style-type: none"> ● Enables us to never leave a customer vulnerable without gas ● Radically improved services beyond the meter and scope of welfare provisions ● Systematic process for providing welfare provisions will ensure no customer in a vulnerable situation is unable to benefit ● Leading the industry in improving protection for those who are vulnerable. ● Fewer interruptions from a customer point of view ● Improved 'first time fix' rate for customers which reduced the need for multiple visits to customers from Cadent and GSRI's etc. 	<ul style="list-style-type: none"> ● Could require changes in legislation and licence ● Potential legal barriers e.g. issues with competition and conflict of interest ● Proactive safety checks could be perceived as an intrusion by some customers ● The cost of this level of service is significant.
Potential unintended consequences	
<ul style="list-style-type: none"> ● Costs escalate beyond what was originally forecasted for RIIO-2 in order to deliver this option ● Customer expectations rise as they become more aware of the provisions available to them from Cadent during an interruption (some customers may abuse this) ● Proactive safety checks could lead to identifying unsafe appliances leading to greater condemnations and customers being off-gas. ● Services beyond the meter may be perceived as impacting the competitive GSRI market ● Higher employee turnover associated with staff leaving Cadent after their skills set enabled them to exit our business into the market more easily ● Additional welfare services create additional environmental waste at their end of life/use. 	

2.4. Why are these the options

We have considered a range of options from rolling over the existing RIIO-1 arrangements which are meeting the minimum requirements within GSOP 3, through to offering bespoke welfare services to all customers and extending the services of our workforce to minimise the impact of gas interruptions on our customers.

Options 2 and 3 build significantly on just meeting GSOP 3 minimum requirements in RIIO-2. Both options look to extensively improve on the current offering and go beyond to try and ensure that we never leave a customer vulnerable without gas. Option 3 would offer bespoke services to all customers, not just those most vulnerable, and further join up the industry to support customers when they are without a gas supply. All options are based on our business insights and findings from customer and stakeholder engagement.

We have mapped these options against the defined objectives:

Table 7 Options appraisal against objectives

	Option 1: Maintain status quo	Option 2: Improved welfare provision	Option 3: Enhanced bespoke welfare provisions and joining up the industry
Ensure CIVS receive an additional level of focus/service	Yellow	Yellow	Green
Provide personalised bespoke services for individual needs	Red	Light Green	Green
Ensure services beyond the meter target the most vulnerable customers	Red	Light Green	Green

No delivery	Weak delivery	Some delivery	Delivery	Strong delivery
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2.5. Customer and stakeholder preference

Based on initial customer and stakeholder insights, ahead of formal customer testing, the preference was Option 3: Enhanced bespoke welfare provisions and joining up the industry. This delivers the key objectives we want to achieve for customers in RIIO-2 and beyond. Our customers have informed us that those who are vulnerable or have a greater reliance on their gas supply should be provided with the required welfare to minimise the impact of an unplanned interruption. We proposed to provide a comprehensive and personalised welfare package which allows customers to keep warm within their homes, have access to hot water and shower facilities, prepare hot meals. In extreme cases, this could even mean temporarily housing customers in hotels or alternative accommodation and/or providing payments at the door on the day.

Although we currently go beyond the minimum GSOP 3 requirements in some occasions, it is not consistent and does not follow a standardised process. Our proposal for RIIO-2 goes well beyond our current offering in four ways:

- Increased choice and scope of services including temporary credit cards, access to shower facilities, hot meal vouchers, temporary accommodation and innovations meeting specific needs e.g. B-Warm blanket
- Development of a decision making application that our engineers are able to use on site which considers the specific customer need (across the 27 needs codes), the length of interruption and the time of year
- This service will be provided to customers beyond those registered on the PSR as we recognise the transitory nature of vulnerability and that the specific circumstance of being without gas can cause vulnerability
- A systemised process to procure and supply the various products or services in a timely and efficient manner.

In order to provide additional protection and never leave a customer vulnerable without gas, we proposed to go beyond by extending the skills of our workforce to enable us to undertake appliance repair works. Where the work required is complex or whole systems require replacement we also proposed to join up the industry by connecting customers with charities who provide additional support to repair or replace their appliances so that they are able to access their gas supply without having to pay significant amounts or wait for long periods to do so. We have seen this model work in the West Midlands, where we have carried out a pilot with National Energy

Action. We proposed that this is rolled out nationally to help all customers who are vulnerable and are faced with similar problems.

Furthermore, to minimise the occurrences of avoidable unplanned interruptions, we proposed to undertake a proactive summertime programme of customer installation and appliance safety checks, targeting areas of high vulnerability. This would allow us to proactively shift any avoidable interruptions of gas services away from the winter, when those who are vulnerable have a greater reliance on their gas supply. On occasions when we find unsafe appliances which need to be condemned, we will work with charities and partnerships to link customers to GSRI's and ensure a customer is never left vulnerable without gas.

Following business options testing we have revised this to remove the proactive check element which customers and some stakeholders were less keen on. The consensus was that this goes beyond our role and gives rise to concerns customers have about cold-call scams and the risk that such a programme may make some customers uncomfortable, inadvertently. In deliberative workshops customers felt that the complications arising from this (e.g. who is accountable for annual appliance checking and who pays when issues are found) outweighed the benefits. However, otherwise option 3 remained our focus.

3. Assessing performance levels



3.1. How we have performed in RIIO-1

As stated in Section 2, the only measure related to providing additional services to vulnerable customers during a gas supply interruption is GSOP 3. Our GSOP 3 compensation payments over RIIO-1 to date (including ex gratia payments) is as follows:

Table 8 GSOP 3 RIIO-1 payments

		2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
East of England	Number of payments	2	11	4	1	5	2
	Value of payments	£48	£264	£96	£24	£120	£48
North London	Number of payments	10	18	10	4	3	2
	Value of payments	£240	£432	£240	£96	£72	£48
North West	Number of payments	9	5	14	6	4	19
	Value of payments	£216	£120	£336	£144	£96	£456
West Midlands	Number of payments	5	11	16	3	5	17
	Value of payments	£120	£264	£384	£72	£120	£408

GSOP 3 failures and payments have been relatively low over RIIO-GD1 to date. However, currently, customers must claim for compensation when we have failed to meet the minimum standard. For RIIO-2 compensation payments will be paid automatically. This may mean an increase in the number of payments made but will be a true reflection of where we failed to deliver this important compensation.

3.2. What performance levels have we considered for RIIO-2

Welfare provisions

It is important that we make welfare provisions to minimise the impact of an interruption to supply for CIVS. Currently, we provide hot plates and fan heaters for customers on the PSR and occasionally go beyond this based on capacity. However, as explained there is an opportunity to go much further in terms of what we provide and who we provide it to and develop a consistent process enabled through a decision making application.

Table 9 Welfare provisions target range and cost to achieve

		Package 1: Low	Package 2: Medium	Package 3: High
Welfare products	Target/range	Personalised welfare provisions for PSR customers to keep warm and have hot showers	Personalised welfare provisions for all vulnerable customers (including those self-assessed and not on the PSR) to keep warm and have hot showers	Personalised welfare provisions for all customers to keep warm and have hot showers
	Cost to achieve (RIIO2 period)	£6,973,963.75	£13,671,759.38	£27,895,855
	Cost assumptions/calculation	(Total sum of welfare package** x daily quantity required x days	(Total sum of welfare package** x daily quantity required x days	(Total sum of welfare package** x daily quantity required x days

		in the year x 5 years (RIIO period)) Daily cost: £3,821 Yearly cost: £1.39m RIIO2 period: £6.97m	in the year x 5 years (RIIO period)) Daily cost: £7,491 Yearly cost: £2.73m RIIO2 period: £13.67m	in the year x 5 years (RIIO period)) Daily cost: £15,285 Yearly cost: £5.58m RIIO2 period: £27.90m
Advanced on day payments at the door for hot meals	Target/range	£10 payment/vouchers per head for hot meals for every evening off gas for PSR customers	£10 payment/vouchers per head for hot meals for every evening off gas for all vulnerable customers (including those self-assessed and not on the PSR)	£10 payment/vouchers per head for hot meals for every evening off gas for all customers
	Cost to achieve (RIIO2 period)	£821,250	£1,642,500	£3,285,000
	Cost assumptions/calculation	Daily no. of PSR customers off-gas in the evening x advanced payment x days in the year x number of years (45 customers x £10 x 365) x 5	Daily no. of vulnerable customers off-gas in the evening x advanced payment x days in the year x number of years (90 customers x £10 x 365) x 5	Daily no. of customers off-gas in the evening x advanced payment x days in the year x number of years (180 customers x £10 x 365) x 5
Temporary accommodation	Target/range	Offer temporary accommodation/hotels on a needs basis for PSR customers who are left off-gas overnight	Offer temporary accommodation/hotels on a needs basis for vulnerable customers (including those self-assessed and not on the PSR) who are left off-gas overnight	Offer temporary accommodation/hotels on a needs basis for all customers who are left off-gas overnight
	Cost to achieve (RIIO2 period)	£492,750	£985,500	£1,971,000
	Cost assumptions/calculation	Daily no. of PSR customers off-gas overnight x national daily rate of hotel x days in the year x number of years (3 customers x £90 x 365) x 5	Daily no. of vulnerable customers off-gas overnight x national daily rate of hotel x days in the year x number of years (6 customers x £90 x 365) x 5	Daily no. of customers off-gas overnight x national daily rate of hotel x days in the year x number of years (12 customers x £90 x 365) x 5
Total cost to achieve (RIIO2 period)		£8,287,963.75	£16,299,759.38	£33,151,855.00
Average additional costs on customer bill per year*		£0.12	£0.24	£0.49

*Please note all price figures indicate the amount any bill could rise above regular inflation

****Unit cost of welfare products**

Table 10 Unit cost of welfare products

Product	Unit price (based on procurement quotes)	Product type
Electric fan heater	£6.62	Heating
Oil filled radiator	£25.24	Heating
Heated seat cover	£43.68	Heating
Thermal blankets	£7.55	Heating
Hotplates	£6.63	Cooking
Mini oven grill	£47.50	Cooking
Large kettles	£26.90	Hygiene
Portable shower	£28.75	Hygiene
Draught excluders	£12.99	Other
Freestanding electric towel rail/warmer	£60.00	Other

Preferred delivery level before customer testing

Ahead of customer testing, our preference was for targets to be in the medium target delivery range as this would ensure focus is still given to those who are most vulnerable (PSR) and allows us the flexibility to self-assess customers and extend our provisions to those who are vulnerable but not on the PSR.

Services beyond the meter

We considered two services beyond the meter that could assist CIVS. The first was a reactive approach in that we would work with expert partners to assist customers with repair or replacement of unsafe appliances that are condemned following an unplanned interruption to supply. We are already working with National Energy Action (NEA) to provide this service to a subset of our customers in West Midlands, but there is an opportunity to extend this to all networks and increase the scope of improvements to include cookers and hobs (which are currently not included as part of the NEA pilot). In addition we explore the opportunity to extend the skill of our own workforce to deliver this service.

The second service we proposed was a more proactive approach where we could use our geographical data to identify key hotspots for leaks and/or vulnerability and undertake a more proactive summertime programme of works and safety checks to shift any avoidable interruptions of gas services away from the winter.

Table 11 Services beyond the meter target range and cost to achieve

		Package 1: Low	Package 2: Medium	Package 3: High
Partnerships with charities	Target/range	Continue with NEA pilot to support vulnerable customers with major appliance / installation works in West Midlands (approx. 900 appliances repaired/replaced over RIIO-2 period)	Extend with NEA pilot to support vulnerable customers with major appliance / installation works across all networks (approx. 5,000 appliances repaired/replaced over RIIO-2 period)	Extend with NEA pilot to support vulnerable customers with major appliance / installation works across all networks and extend scope to cover gas cookers and hobs (approx. 5,000 appliances repaired/replaced over RIIO-2 period)

	Cost to achieve (RIIO-2 period)	£486,245	£2,560,700	£2,719,835
	Cost assumptions/calculation	Average unit cost of intervention (service, repair or replace): Including gas cookers and hobs: £494,64 excluding gas cookers and hobs: £525.79 Additional time cost per intervention (Hourly cost x time taken): £70 x 0.25 = £17.50 Training and literature costs are zero - this is incorporated in our CO awareness proposals		
Extend workforce skills	Target/range	Status quo – Do not extend the skills of the workforce	Undertake minor appliance and pipework repairs through follow-on work orders completed within 3 working days	Undertake minor appliance and pipework repairs during the initial visit
	Cost to achieve (RIIO-2 period)	£0	£34,089,800	£38,822,800
	Cost assumptions/calculation	N/A	Based on 300 FCOs to undertake appliance work training - circa £2m in year 1, Equipment cost - £400k p.a Capacity costs (20% workload increase) - £6m p.a.	Based on 800 FCOs to undertake appliance work training - circa £5.6m in year 1, Equipment cost - £650k p.a Capacity costs (20% workload increase) - £6m p.a.
Proactive safety checks	Target/range	Proactive summer-time programme of customer installation and appliance safety checks for 50,000 households , targeting hotspots of PSR customers/communities.	Proactive summer-time programme of customer installation and appliance safety checks for 100,000 households , targeting hotspots of PSR & low-income customers/communities	Proactive summer-time programme of customer installation and appliance safety checks for 200,000 households , targeting all types of customers/communities
	Cost to achieve (RIIO-2 period)	£4,000,000	£15,000,000	£37,000,000
	Cost assumptions/calculation	Cost of undertaking checks (first 50,000 within FCO waiting time - no cost) (50,000 x £0) (Number of checks x likelihood of appliance condemnation) x cost to repair/replace (50,000 x 20%) x £400	Cost of undertaking checks (first 50,000 within FCO waiting time - no cost, additional checks £140 per check) (50,000 x £0) + (50,000 x £140) (Number of checks x likelihood of appliance condemnation) x cost to repair/replace	Cost of undertaking checks (first 50,000 within FCO waiting time - no cost, additional checks £140 per check) (50,000 x £0) + (150,000 x £140) (Number of checks x likelihood of appliance

			$(100,000 \times 20\%) \times \text{£}400$	condemnation) x cost to repair/replace) $(200,000 \times 20\%) \times \text{£}400$
Total cost to achieve (RIIO-2 period)	£4,425,000		£55,514,800	£85,247,800
Average additional costs on customer bill per year*	£0.07		£0.83	£1.27

*Please note all price figures indicate the amount any bill could rise above regular inflation

Preferred target delivery level before customer testing

We aim to never leave a customer vulnerable without gas and therefore proposed to extend the proven NEA partner mechanism across all networks so that all CIVS can benefit from the additional protections.

Before customer testing our preference was to undertake a proactive summertime programme of customer installation and appliance safety checks for 100,000 households, targeting hotspots of PSR and low-income customers or communities to ensure those who are most vulnerable in society benefit from improved safety and a reduced likelihood of an unplanned interruption to their gas supply.

4. Customer testing



We have tested our commitments in a variety of ways to ensure we have both quantitative and qualitative responses across a broad segmentation of customers and stakeholders. We have tested the output measures that we are proposing and gathered feedback where options exist. This phase was called business options testing. Alongside customer testing, we have targeted specific groups such as hard to reach, seldom heard, future generations, those in fuel poverty and businesses such as micro-businesses. We really wanted to understand if had heard correctly what our customers and stakeholders wanted and needed from us.

During options testing, we shared the bill impacts to ensure our customers and stakeholders were fully informed before making choices.

Once we had gathered all the feedback from the options testing phase, we conducted acceptability testing to test our plan in readiness for our final plan submission in December.

4.1. Business options testing (BOT) and Triangulation

Welfare provisions

Feedback from our initial engagement with our customers and stakeholders informed us that we should be providing additional support to customers who are in vulnerable situations and therefore we did not propose to provide enhanced welfare services to all our customers.

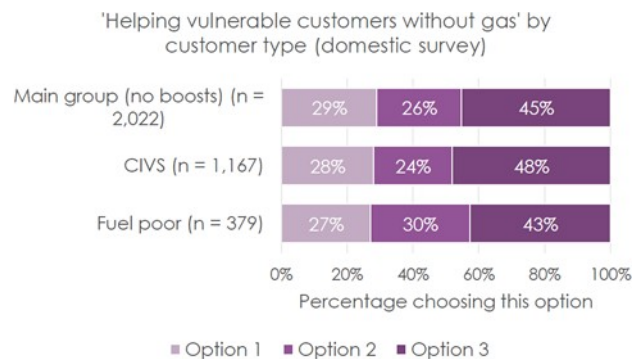
This view has been supported by our customers during the business options testing quantitative survey and qualitative workshops. The majority of customers believed that we should be offering all welfare services (i.e. products, payments, and accommodation) to CIVS during both the domestic survey (44%) and the business survey (51%). This view was the same when we directly asked CIVS (48%) and customers experiencing fuel poverty (43%).

When we asked customers if these services should be provided to all customers, views were balanced with domestic customers showing equal preference (38%) for option 1, offering welfare products to keep warm and have hot showers, and option 3, offering welfare products, payments and temporary accommodation. Most business customers supported option 1 (41%).

This was also supported by our stated preference WTP study which suggested that customers valued additional services being provided to customers believe to be in vulnerable situations (i.e. beyond PSR customers).

Therefore, we will offer personalised welfare provisions to CIVS during an interruption to their supply. We will not offer this service to all customers but in recognising that vulnerability is transitory, we will offer this to customers who become vulnerable post the gas interruption (beyond those registered on the PSR). Our additional welfare package will include personalised services such as shower facilities, free meals or temporary accommodation and we will develop a decision making application which considers the customer need and length of interruption to ensure the choice of provisions and services are best suited to the customer and circumstance.

Figure 2 Welfare provisions BOT survey results



Repair or replacement of unsafe appliances

From phase 1 deliberative workshops our customers have encouraged us to go beyond by helping those most in need, for example, by providing additional services during interruptions and never leaving a customer vulnerable without gas.

During the business options testing survey, the majority of customers were in support of the highest target delivery level to repair and replace faulty appliances (Domestic 51%, Business 53%). CIVS and those experiencing fuel poverty also supported this (54% and 52% respectively). However, a cost, in turn affecting bills, was associated with working with charities to do this.

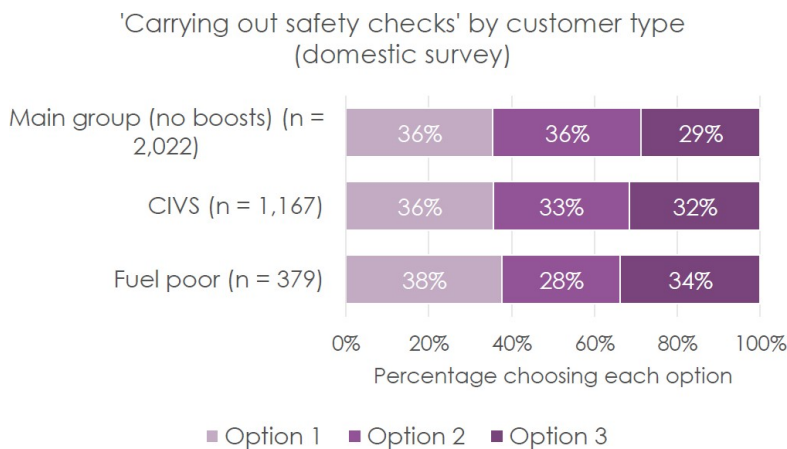
During follow-up qualitative customer forums, customers were provided with additional information and shown how training our own staff to undertake repairs to ensure customers were of left off-gas would impact their bills. Although most customers supported the highest delivery targets to undertake repairs during the initial visit, a significant number of customers believed it wasn't an activity Cadent should be undertaking alone (see graph).

We therefore believe there is strong support for working with charities and partnerships to support CIVS but to a lesser extent training our own workforce to undertake internal repairs to faulty appliances. Further business deliverability assessments reinforced this view, without adding potentially significant costs to the overall direct operation. However, we will review the delivery approach during RIIO-2 and consider alternative delivery approaches beyond this.

Therefore, through expert partnerships we will support vulnerable customers to repair or replace unsafe appliances discovered following isolation. This builds on the existing pilot work we have already completed with National Energy Action (NEA) within our West Midlands network. Through this process customers are referred and their eligibility assessed against a number of criteria to ensure that they get the right support, whether it be a repair or a replacement appliance, or even just advice on gas safety.

Safety checks

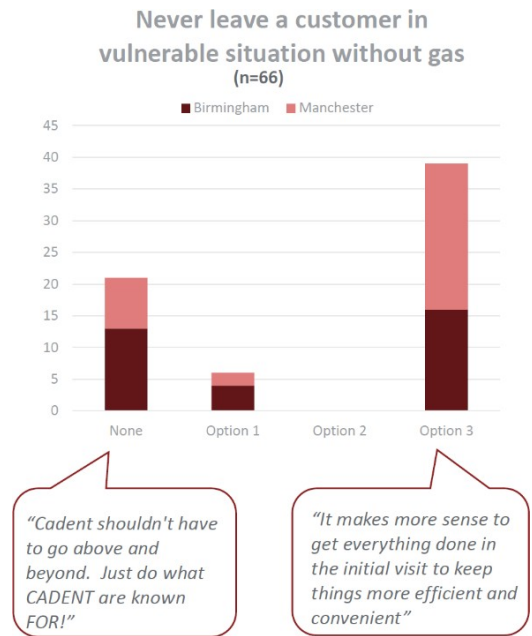
Figure 4 Safety checks BOT survey results



There was a mixed response to undertaking proactive safety checks. During the business options testing survey, the majority of domestic customers voted for the option with the lowest delivery targets (Option 1, 50,000 safety checks), while non-domestic customers were quite evenly split between the three options. The majority of CIVS or in fuel poverty also favoured the Option with the lowest delivery targets (Option 1).

This topic was also discussed at the follow-up qualitative workshops in London and Ipswich. Although overall customers supported the option with the highest target delivery levels (Option 3), the majority of London customers voted for Cadent to do nothing (i.e. none) while the majority in Ipswich voted for the Option with the highest delivery levels, to undertake 200,000 proactive safety checks.

Figure 3 repair or replacement of unsafe appliances BOT survey results



During discussions, many customers voiced concerns that this activity would be moving away from Cadent’s core responsibilities and could give rise to safety concerns, as customers had not asked for Cadent to be there, especially for CIVS. Although customers supported the idea that they could opt-out and decline a free safety check, many believed this could lead to inefficiencies, for reasons ranging from customers being out when Cadent called, to the time wasted offering checks to customers who didn’t want it.

Participants voiced concerns that offering safety checks would be moving away from Cadent’s core responsibilities and conflict with landlord or council obligations. Staff identification, validation and trust was also raised as concerns, especially due to the rise of door-to-door scams.

Figure 5 BOT results



Given the feedback from customers and concerns around safety and inefficiency, we are proposing to remove this element from our commitments. Although we see the merits with this service, we are conscious that we are new company developing our brand and trust (see Appendix 07.05.00 Trust Charter’ for our proposals). Therefore, we acknowledge customer concerns of ‘cold calling’ and potentially safety concerns that this proposal could give rise to. In RIIO-2 we will continue to explore how these concerns and issues could be mitigated in delivering this service through trials and further customer testing. However, we will not be committing to deliver this service on a wide scale as part of our RIIO-2 plan.

After triangulation, our proposed delivery activities in RIIO-2 are:

- **Welfare provision– personalised welfare facilities for all vulnerable customers (not just those on the PSR) including development of a decision making application that considers customer needs.**
- **Repair or replacement of unsafe appliances following emergency visit– Through expert partnerships, we will support vulnerable customers to repair or replace unsafe appliances discovered following isolation**
- **We won’t extend the skills of our workforce to carry out proactive summertime safety checks**

4.2. Acceptability testing for our Quality Experience customer outcome

In our acceptability testing, the quality experience aspects of our business plan were generally found to be acceptable:

- Of domestic customers, 83 of those surveyed found the quality experience section of the plan acceptable, and only 1% found it unacceptable. When asked what would make it acceptable, those who answered that they found it neither acceptable nor unacceptable suggested a further reduction in prices (14%) or wanted more detail on how it would be implemented (6%). This was broadly consistent across the regions.
- 49% of Cadent business customers said that they found the quality customer experience aspects of Cadent’s business plan “very important” and 37% “fairly important” (86% in total). The breakdown across business sizes was broadly consistent, but overall acceptability increased with business size, with the percentages finding the plan either very acceptable or acceptable being 79%, 87% and 90% for sole traders, businesses with 1-9 employees and business with 10-49 employees respectively. Customers said that a quality experience was an essential element of delivering a service. However, some customers questioned the feasibility of the plan and some terms used (such as fuel poverty or PSR) were not understood. Many business customers said that the proposals around fuel poverty and supporting those in vulnerable situations demonstrated that Cadent were making efforts to go above and beyond their remit.

Our commitments relating to going beyond to never leave a customer vulnerable without gas were supported in most qualitative acceptability testing:

- Customers at our acceptability testing focus groups with those in fuel poverty felt that Cadent is going 'above and beyond' to support those in vulnerable situations. There was strong support for welfare provisions for CIVS.
- Participants wanted more clarity around needs assessments.
- The majority of discussion on this outcome area focused on how Cadent would ensure that their efforts were targeted at those who needed support most. Concerns raised included:
 - Those most in need would have difficulty accessing provisions
 - Some customers might try to take advantage of Cadent's more philanthropic initiatives (e.g. repairing and replacing a boiler for free). They wanted Cadent to explain how a robust needs assessment would be conducted.
 - The working poor would be missing out on these initiatives.

As part of the Verve business plan consultation, never leaving a customer vulnerable without gas was thought to be an ambitious claim and challenging to deliver. Overall, a quality experience was seen as critical obligation for any organisation. Most customers saw this as a hygiene factor and it surprised a few that it was part of the plan, although many welcomed it being spelt out. Many expected the commitments to be manageable, though no customers had any real experience of Cadent's services. Providing detail of what the commitments should entail provides comfort, though failure to deliver will quickly harm trust. Reliability and reassurance in relation to safety and service delivery stood out. Some customers had issues with jargon e.g. PSR and some commitments felt hard to achieve. Despite Cadent admitting that direct contact with their customers is rare, the promise that they are available, if needed, was reassuring.

Looking into personalised vulnerability services specifically, participants at the Verve business plan consultation started providing support to CIVS had universal appeal but a small number were not clear on why this was Cadent's responsibility and not the gas retailers. In addition, clarity was required on why an innovation fund could be used in this area.

5. Our commitments



5.1. Our commitments for going beyond to ensure a customer is never left vulnerable without gas

Over the RIIO-2 period, we will measure and report on the following commitments leading to benefits to our current and future customers.

Table 12 Our output commitments

Output commitment	Measure definition	Benefits to current customers	Benefits to future customers	Net CVP value over RIIO-2 period
Guaranteed Minimum Standards (GSOP 3) alternative welfare provisions (common)	Provision of alternative welfare for PSR customers	<ul style="list-style-type: none"> Minimum service levels established, and compensation levels updated in line with inflation, payments become automatic 	<ul style="list-style-type: none"> Minimum standards will evolve with customer expectations 	N/A
Personalised welfare provisions (bespoke)	<p>Customers in vulnerable situations provided with personalised welfare provisions e.g. oil filled radiators, thermal blankets, commercial style kettle, mini ovens, rechargeable showers, meal vouchers, accommodation etc.</p> <p>This will be tracked and measured by the field force directly on-site through hand held devices</p>	<ul style="list-style-type: none"> Enhanced welfare package made available to CIVS to improve the customer experience in the event of a supply interruption. A consistent process enabled through the development of a decision making application will ensure all CIVS are provided with the same service. 	<ul style="list-style-type: none"> Greater level of provisions being offered to current customers, raising the bar for future customers 	£120.8m
Services beyond the meter - Repair/replacement of appliances for vulnerable customers following an emergency incident	<p>Establish partnerships for appliance works for vulnerable customers. Target 5,000 appliances repaired or replaced in RIIO-2</p>	<ul style="list-style-type: none"> An additional service that will enhance the experience received when a vulnerable customer is off-gas Prevention of customers living without gas supply or unsafe reconnection. 	<ul style="list-style-type: none"> More appliances / repaired / replaced in properties for use by different generations 	£15m

Services beyond the meter – eligibility criteria

We have already discussed the pilot scheme with NEA in our West Midlands network in section two of this document, and how our engineers are able to call the NEA's partner Act on Energy to make a referral or provide the customer with information on how to contact them. Act on Energy will assess the customer to see if they meet the criteria that will entitle them to support with some or all of the costs of any next steps. They will then source and pay for any follow up work through a GSRI or provider of appliances. If the customer doesn't meet the criteria, Act on Energy will assist with locating a GSRI.

Based upon the characteristics of the household that can put them in a vulnerable situation:

- Age (elderly or young family)
- Long-term illness – physical or mental
- Physical impairment

The circumstances of the household are factored in:

- Low-income
- Poor quality housing
- Living alone

High level criteria is:

- Income less than £21k per annum
- In receipt of 'means tested benefits'
- Do not have savings beyond the ECOs criteria (£16k max)

There are occasions when someone is referred and they can support themselves financially but maybe need some guidance to get a GSRI booked. Act on Energy will also support here by providing contact details of a trusted GSRI and even help with the initial/continued contact if required.

Figure 6 Referral process

Referral process – owner/occupier

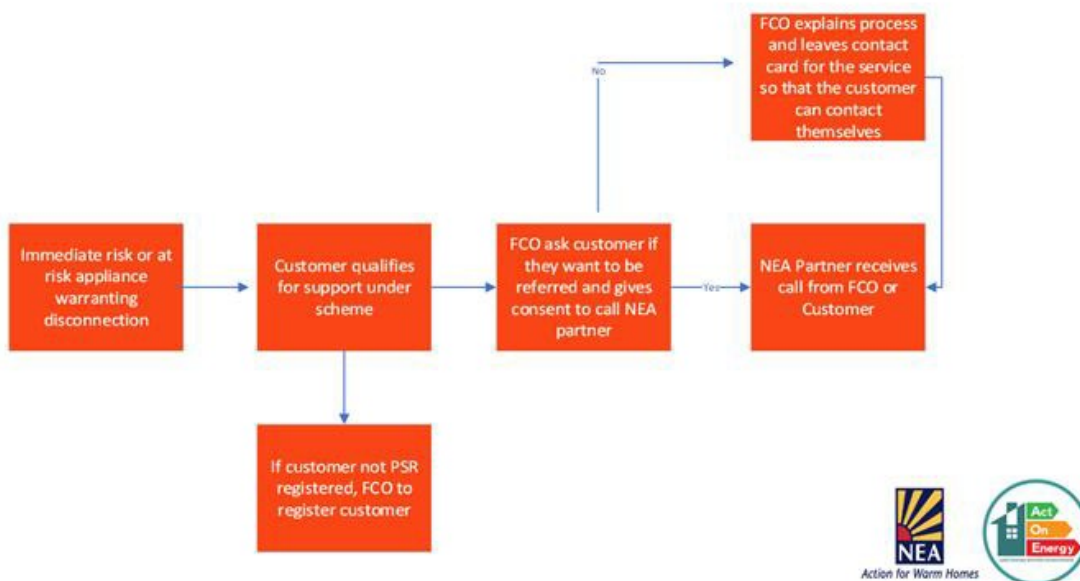
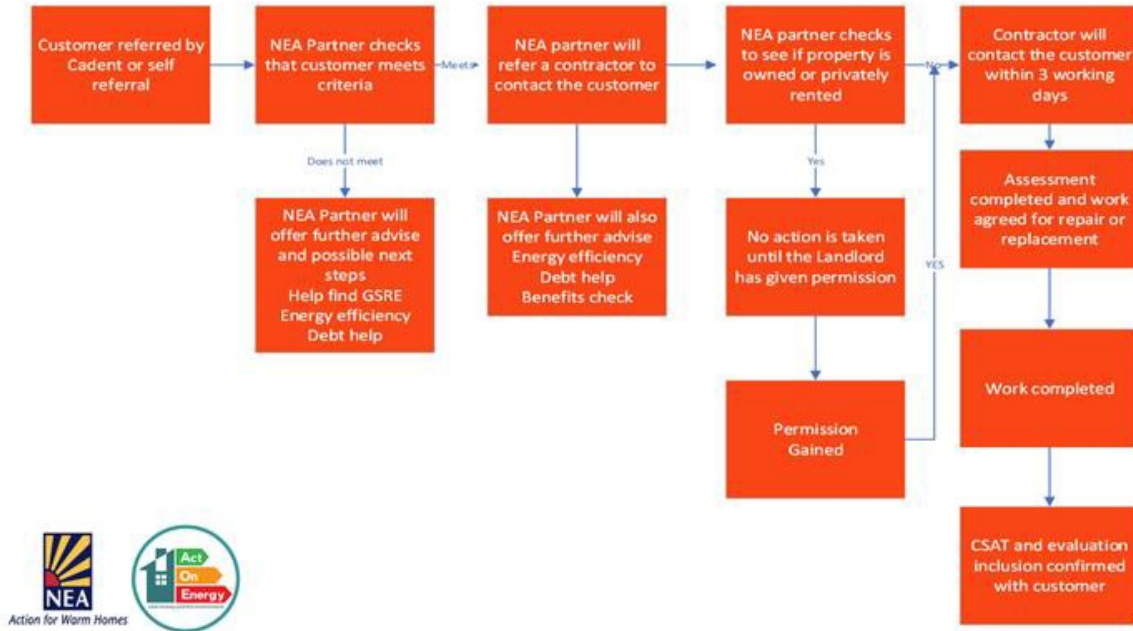


Figure 7 The process once a customer has been referred

Process – once referred



Keeping our commitments under review

We aim to never leave a customer vulnerable without gas and therefore propose to extend the proven NEA partner mechanism across all networks so that all CIVS can benefit from the additional protections. The current target delivery level to repair/replace 5,000 unsafe appliances was based on data from the trial in our West Midlands network. As we extend the scheme out from March 2019 to our East, North London and North West networks, it will give us a broader set of data and allow us to fully understand the scale of the challenge. Once we have further data, this combined with the significant customer and stakeholder support to be more ambitious in this area, there may be justification to enhance our delivery targets in this area in order to keep more customers safe and warm following an isolation.

We will keep this commitment under review as more data becomes available from our partnership with the NEA, and will work with Ofgem as we move through the business planning process to determine the final delivery numbers.

5.2. Assessment of how to treat commitments

We have undertaken an assessment of these outputs against Ofgem’s criteria to understand the best form of regulatory treatment for personalising welfare facilities and services beyond the meter:

Table 13 Regulatory treatment assessment

Regulatory treatment	Criteria	Rating	Further explanation of assessment
Reputational Output delivery	Demonstrate this is important to customers and/or stakeholders	High	Our engagement for RIIO-2 on this output shows customer support for providing welfare facilities and services beyond the meter to CIVS

incentive (ODI)	Funded elsewhere in our plan, or inappropriate for funding		These costs are not funded elsewhere in our plan. However there is a minimum standard (GSOP 3) which covers some aspects of welfare provision
	Can robustly measure performance improvement		Customers want us to offer a bespoke and personalised service, therefore setting specific tangible measures may not be appropriate
Financial ODI	Demonstrate this is important to customers and/or stakeholders and they are willing to pay		See reputational ODI
	Not funded elsewhere in our plan		Although this is not funded, there is an overlap with GSOP 3
	Can robustly measure performance improvement		See reputational ODI
Price control deliverable	Specific deliverable with a clear timeline and targets		Although we know the average cost of enhanced welfare and services beyond the meter, we are uncertain about how many customers will take up.
	Demonstrable benefit to customers which they support		Our engagement for RIIO-2 on this output indicates customers think there is a benefit to providing welfare facilities and services beyond the meter to CIVS.
Licence Obligation	Absolute minimum, with significant customer harm if we do not deliver it		Enhanced welfare provisions, particularly for customers who are not in vulnerable situations is not a minimum standard (there is already a separate GSOP covering the interruption)
	Applicable to all GDNs		For this output, we have undertaken work specifically to understand the preferences and needs of customers in our area.
Business Plan Incentive	Adds to the quality of our plan, but not a specific deliverable or performance measure		Our preferred option for this output does include performance targets. However they are not specific.
	Funded elsewhere in our plan, or inappropriate for funding		These costs are not funded elsewhere in the plan

Doesn't meet criteria	Weakly meets criteria	Partially meets criteria	Meets criteria	Strongly meets criteria
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We are proposing a price control deliverable (PCD) for the bespoke outputs, in the form of a use-it-or-lose-it (UIOLI) allowance to cover the cost of personalised welfare provisions and working with partners to support CIVS with repair or replacement of unsafe appliances.

Table 14 Summary of proposed measures and targets

Output	East of England	North London	North West	West Midlands	Cadent	Comparison to RIIO-1	Cost
GSOP 3: PSR customers provided with alternative heating and cooking facilities within four hours.	☑	☑	☑	☑	☑	Increased compensation in-line with inflation and automatic payments for failure	£0
CIVS provided with personalised welfare provisions	Bespoke personalised welfare offered to CIVS including alternative heating, cooking, shower products, access to hot meals and temporary accommodation for long interruptions. We will track and monitor this over RIIO-2					Beyond GSOP 3 requirements – additional products/services and customer scope	£16.3m
Repair/replacement of appliances for vulnerable customers following an emergency incident	1,835	1,040	1,230	895	5,000	Establish scheme across all four networks (currently only in WM)	£2.7m

Funding our commitments

We propose to fund our commitments through the (UIOLI) allowance and bespoke PCDs. We recognise that our costs associated with proposals on vulnerability go beyond the £30m joint fund proposed by Ofgem, of which approximately £11.5m will be allocated to Cadent.

However, our evidence suggests that customers are willing to pay for enhanced services related to welfare provisions and that they deliver a positive social return on investment.

Therefore, we propose that those initiatives which deliver the greatest net social value (i.e. SROI considered with delivery costs) are prioritised first through the common UIOLI allowance, and then bespoke PCDs set for initiatives beyond this.

In Chapter 7.3 we have shown a ranking of the benefits of all the vulnerable initiatives in terms of overall value and by value per £ invested which could be used to prioritise against the Ofgem mechanism.

6. Delivering our commitments



6.1. How we will deliver our commitments

Table 15 Delivering our commitments

Area	What we will do to deliver commitments
Customer communications	<ul style="list-style-type: none"> We will communicate the services we are offering to customers during an interruption through various channels, including our workforce who engage with them directly, to ensure all CIVS can benefit.
Processes/ systems	<ul style="list-style-type: none"> We will enhance our systems to ensure customers are provided automatic payments when we fail GSOP 3 We will develop our systems and processes to offer bespoke and personalised welfare provisions (including accommodation, hot food vouchers, on day payments) for CIVS, minimising the impact an interruption can have on their lives. We have initiated a project via the Energy Innovation Centre to explore what tech and app based solutions the market can provide Cadent with to enable this, with very promising initial results. Our finance team are exploring modern means of offering credit to customers at pace (e.g. for meals in the event of an interruption).
Partnerships	<ul style="list-style-type: none"> We will build on the NEA trial and partner with industry experts to offer additional appliance repairs or replacement services to CIVS when we encounter unsafe appliances. We are working with the Energy Innovation Centre to find the best partners to support us with exploring innovative techniques and technology to provide customers with bespoke welfare facilities. This will include solutions to the logistical challenges that come with providing increased welfare services.
Engagement	<ul style="list-style-type: none"> We will engage with key safeguarding groups and organisations to ensure we continually provide the right services to CIVS We will set up regional stakeholder groups with representation from a number of groups who have expertise in vulnerability.
Skills and resource	<ul style="list-style-type: none"> We will train for front line delivery teams and customer call agents to ensure they are equipped with the knowledge and resources they need to offer bespoke welfare provisions and services beyond the meter to CIVS.

6.2. How we will protect against non-delivery

Table 16 Protecting against non-delivery

Regulatory tool	How it will help in protecting customers from non-delivery
Principles-based licence obligation	The updated licence obligation D13 will require GDNs to support CIVS as part of their business as usual operations.
GSOP 3 – alternative heating and cooking facilities	When customers registered on the PSR experience a gas supply interruption, they will be provided with alternative heating and cooking facilities within 4 hours. If we fail, the customer is entitled to compensation.
Price control deliverable	Non-delivery of the targets proposed will lead to any unused funding returned to customers in full.