

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:

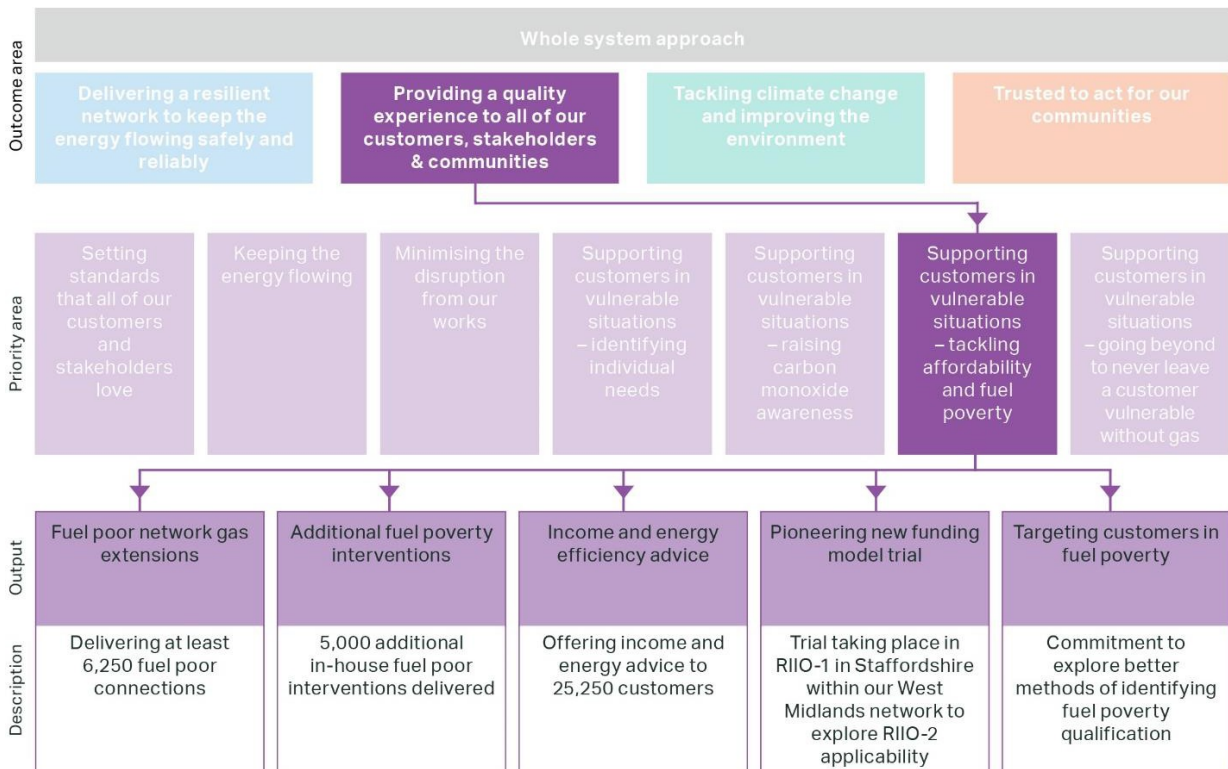


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How we have developed our proposals

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

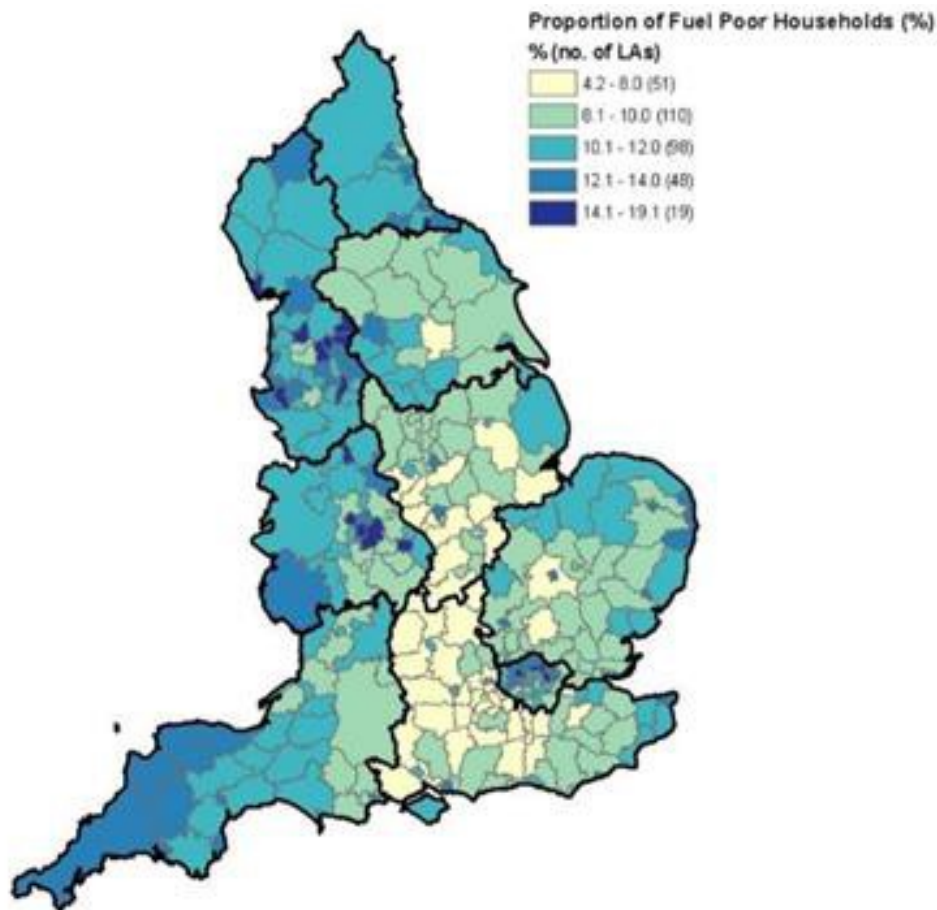
(i.e. money owed to energy suppliers) which will not be spent in local economies, and £22bn spent by the NHS treating cold-related conditions.

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> |

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|--|---------------|---|--|--|-----------|----------|------------|----------|----------|
| <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 | <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 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.</p> | <p>Domestic and business customers were asked their preferred options (with varying degrees of ambition / 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 | - | 2.5 | 3.0 | - |
| | Sep-19 | Ofgem's customer and social working group (28 February 2019) | <p>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.</p> | N/A | 12 | - | - | 3.0 | - |

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|------------------------------|--------|--|---|--|-------|-----|-----|-----|-----|
| 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 |

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|------------------------------|--------|--|--|--|----|-----|-----|-----|-----|
| 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 |

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|------------------------------|--------|--|---|--|-----|-----|-----|-----|-----|
| 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).

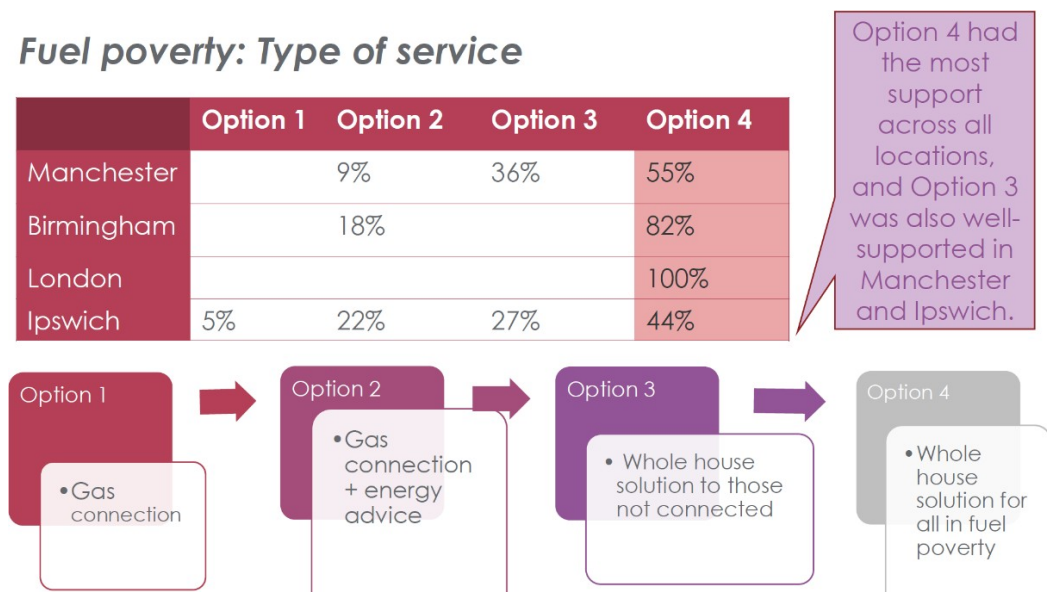
In terms of data security, the model is compliant with the General Data Protection Regulations (GDPR). The algorithm generates predictions using public data, with the predictions stored on an encrypted server, and regularly uploaded to the software platform that is being used. Only select users, such 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 connection 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> |

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| | <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> |

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| <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 |
|-------------|---------------|---------------|----------|-----------------|

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 County 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.

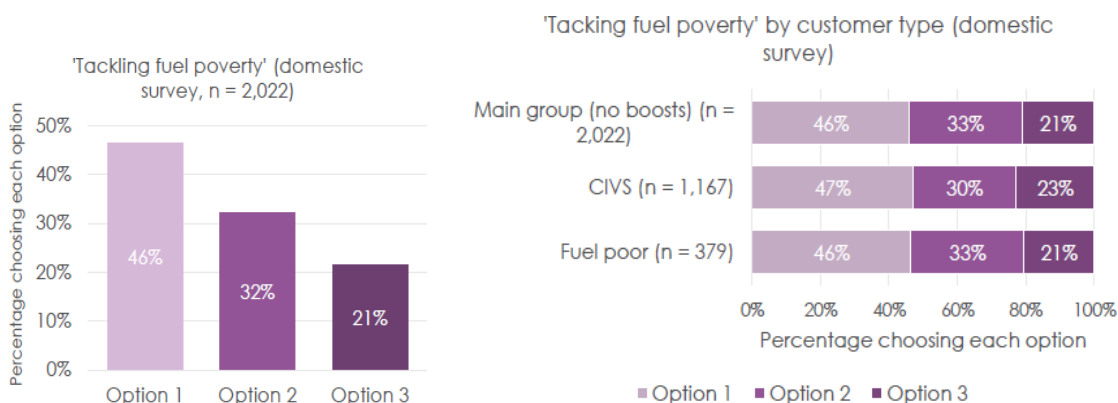
4.1. Business Options Testing (BOT) and triangulation

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 |
|--|---|---|---|-----|

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 | | 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 | | 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 | | 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 | | 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 | | 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 | | 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 deliver the FPNES scheme. |
| | Demonstrable benefit to customers which they support | | 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 |
|-----------------------|-----------------------|--------------------------|----------------|-------------------------|

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. |