

# Vulnerability & Carbon Monoxide Allowance (VCMA)

## Project Eligibility Assessment (PEA) Harvey Girls "Be Well, Be Energy Fit" Project

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## Gas Network Vulnerability & Carbon Monoxide Allowance (VCMA) Governance Document - Project Eligibility Criteria

<b>Section 1 - Eligibility criteria for company specific projects (other than condemned essential gas appliance repair and replacement)</b>	
In order to qualify as a VCMA project, a project must:	
<b>VCMA Eligibility Criteria</b>	<b>Criteria Satisfied (Yes/No)</b>
<b>a)</b> Have a positive, or forecasted positive Social Return on Investment (SROI), including for the gas consumers funding the VCMA project;	<b>Yes</b>
<b>b)</b> Either: <ul style="list-style-type: none"> <li><b>i.</b> Provide support to consumers in vulnerable situations, and relate to energy safeguarding, or</li> <li><b>ii.</b> Provide awareness on the dangers of CO, or</li> <li><b>iii.</b> Reduce the risk of harm caused by CO;</li> </ul>	<b>Yes</b>
<b>c)</b> Have defined outcomes and the associated actions to achieve these;	<b>Yes</b>
<b>d)</b> Go beyond activities that are funded through other price control mechanism(s) or required through licence obligations; and	<b>Yes</b>
<b>e)</b> Not be delivered through other external funding sources directly accessed by a GDN, including through other government (national, devolved or local) funding.	<b>Yes</b>
<b>Section 2 - Eligibility criteria for company specific essential gas appliance servicing, repair and replacement projects</b>	
In order to qualify as a VCMA project, unsafe pipework and essential gas appliance servicing, repair or replacement must meet the following criteria:	
<b>a)</b> A GDN has to isolate and condemn unsafe pipework or an essential gas appliance following a supply interruption or as part of its emergency service role;	<b>Yes</b>
<b>b)</b> The household cannot afford to service, repair or replace the unsafe pipework or essential gas appliance; and;	<b>Yes</b>
<b>c)</b> Sufficient funding is not available from other sources (including national, devolved or local government funding) to fund the unsafe pipework or essential gas appliance servicing, repair or replacement.	<b>Yes</b>

<b>Section 3 - Eligibility criteria for collaborative VCMA projects</b>	
In order to qualify as a collaborative VCMA project, a project must:	
<b>a)</b> Meet the above company specific and boiler repair and replace (if applicable) project eligibility criteria;	<b>N/A</b>
<b>b)</b> Have the potential to benefit consumers on the participating networks; and	<b>N/A</b>
<b>c)</b> Involve two, or more, gas distribution companies.	<b>N/A</b>

## Gas Network Vulnerability and Carbon Monoxide Allowance (VCMA) Governance Document - Project Registration Table 2

<b>Information Required</b>	<b>Description</b>
<b>Project Title</b>	Harvey Girls "Be Well, Be Energy Fit" Project
<b>Funding GDN(s)</b>	Cadent Gas - Eastern Network
<b>Role of GDN(s) *For Collaborative VCMA Projects only</b>	Not applicable - company specific project
<b>Date of PEA Submission</b>	
<b>VCMA Project Contact Name, email and Number</b>	Name: Phil Burrows, Email: phil.m.burrows@cadentgas.com Number: 07773 545451
<b>Total Cost (£k)</b>	Total Costs: £33,777.10 Partner Costs: £32,500 Slow Cooker Costs: £1,277.10
<b>Total VCMA Funding Required (£k)</b>	£33,777.10
<b>Problem(s)</b>	<p><u>Fuel Poverty</u></p> <p>There are links between levels of deprivation and fuel poverty. Fuel poverty is a form of hardship where households do not have the income required to heat their home to an adequate level.</p> <p>On a national scale, <sup>1</sup>2019 government sub-regional fuel poverty data stated that 13.8% of English households lived in fuel poverty.</p> <p>However, Burton Upon Trent reported significantly higher levels of fuel poverty at a constituency level</p>

<sup>1</sup> <https://www.gov.uk/government/statistics/sub-regional-fuel-poverty-data-2021>

when compared to the national average- 17% (7,762 households).

The Harvey Girls "Be Well, Be Energy Fit" project supports fuel poor households living in deprived areas of East Staffordshire and Burton Upon Trent by offering energy efficiency advice and income maximisation services.

### Fuel Poverty and Cold Related Illness

Due to being unable to afford the costs associated with heating their home to a healthy temperature, households living in fuel poverty have an increase risk of developing cold related illness.

Cold related illness ranges from influenza, respiratory disease, and stroke, through to contributing towards cold related deaths.

A <sup>2</sup>Public Health England report published in 2020 stated that cold related deaths represent the biggest source of winter mortality in England Wales, with an average of approximately 35,000 excess winter deaths each year.

<sup>3</sup>2017/2018 data suggested that 16,890 excess winter deaths in the UK were attributed to cold housing conditions. Poor housing conditions, low income and high fuel costs all play a factor in a household's risk of experiencing fuel poverty.

The Harvey Girls "Be Well, Be Energy Fit" project aims to reduce the risk of cold related illness in East Staffordshire households, through offering a holistic package of services including home energy advice, help with finances and budgeting and wider referrals into local support services.

### Risk of Exposure to Carbon Monoxide and Levels of Deprivation

Around <sup>4</sup>30 people living in the UK die from carbon monoxide poisoning each year. An additional <sup>5</sup>4,000 people attend accident and emergency each year as a result of carbon monoxide and 200 people are left hospitalised.

<sup>2</sup> <https://www.gov.uk/government/publications/health-matters-cold-weather-and-covid-19/health-matters-cold-weather-and-covid-19>

<sup>3</sup> <https://www.e3g.org/news/media-room/17000-people-in-the-uk-died-last-winter-due-to-cold-housing>

<sup>4</sup> <http://www.co-gassafety.co.uk/wp-content/uploads/2019/01/Statistics-sheet-presspack-Jan-2019-18.01.19.pdf>

<sup>5</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/260211/Carbon\\_Monoxide\\_Letter\\_2013\\_FinalforPub.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/260211/Carbon_Monoxide_Letter_2013_FinalforPub.pdf)

	<p>Issues such as fuel poverty and high household debt can influence a customer's risk of exposure to the dangers of carbon monoxide. An unavailability of household income can mean that many customers do not have the means to regularly service their gas appliances and/or purchase audible carbon monoxide alarms.</p> <p>This project aims to tackle this issue by offering gas safety checks on appliances owned by customers who do not have the financial means to participate in the market. Cadent engineers will first attend the properties of customers to isolate or condemn unsafe appliances that have not been serviced/checked for safety historically. Cadent will then conduct a second visit where an upskilled engineer will check the appliance for safety, making referrals into other VCMA funded projects in the event of further repairs/replacements being required.</p>
<p><b>Scope and Objectives</b></p>	<p><u>Project Scope</u></p> <p>Cadent will provide Harvey Girls with £33,777.10 of VCMA funding to enable the delivery of an initial 12-month vulnerability project.</p> <p>The funding has been utilised by Harvey Girls to deliver the following services:</p> <ul style="list-style-type: none"> <li>• 150 local families living in a range of housing tenures have been supported with: <ul style="list-style-type: none"> <li>○ Information on gas safety and carbon monoxide education. This will increase project families awareness on the signs, symptoms, and preventative actions when they suspect CO.</li> <li>○ The installation of audible carbon monoxide alarms; This will offer families living in financial hardship the means to access an alarm, ensuring that they remain safe.</li> <li>○ The offering of in person home energy efficiency advice on topics such as: efficient use of appliances and behaviours, effective use of heating and hot water controls and claiming the Warm Homes Discount. Energy usage and property efficiency are factors in a home experiencing fuel poverty. Offering families advice on how to use their energy more efficiently will allow them to better manage their fuel bills.</li> </ul> </li> </ul>

- Registration to the Priority Services Register. This will offer PSR-eligible customers vital, tailored support when dealing with their utility providers (e.g. reduced stress during an outage).
- The maximising of household income through conducting benefit entitlement checks and claims support. Household income plays an important role in a family's risk of experiencing fuel poverty. Benefit entitlement checks and claims support will help ensure that customers are receiving all of the financial assistance that they are entitled to.
- 25 households with unsafe gas appliances have been supported with free gas appliance safety checks. This will be offered to households that do not have the financial means to independently commission a gas safe registered engineer and will ensure that fuel poor households remain on supply and protected from exposure to the dangers of carbon monoxide.
- 50 households have received practical support on the use of slow cookers, as well information on the health, financial and efficiency benefits. This service will offer families a more affordable and efficient means of cooking, allowing them to allocate more of their fuel expenditure to space heating.

The project aims to reach approximately 480 people over the initial 12-month duration of the project. This total reach will be divided into:

- \*360 people across 150 households supported with safety, energy efficiency and/or income maximisation advice via Harvey Girls home visits. \*60 individuals from within this group will also receive gas appliance safety checks.
- \*120 people across 50 households supported with practical advice on slow cooking.

\*NB: The average household size in the UK is <sup>6</sup>2.4 people.

<sup>6</sup> <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/families/bulletins/familiesandhouseholds/2016>

	<p><u>Project Objectives</u></p> <p>The Harvey Girls "Be Well, Be Energy Fit" Project contains a series of objectives that success will be measured:</p> <ul style="list-style-type: none"> <li>• A positive social return on investment is generated - see the below relevant section for more details.</li> <li>• Approximately 150 households are supported with the issuing of carbon monoxide alarms and education.</li> <li>• Approximately 150 households are supported with in-home energy efficiency.</li> <li>• Approximately 150 households are assisted with income maximisation services and claiming of the Warm Homes Discount.</li> <li>• Approximately 150 households will be supported with registration to the priority services register.</li> <li>• 50 households are helped with practical support on slow cooking, helping them to understand the potential health, efficiency, and financial benefits.</li> <li>• 25 households are supported with a free gas safety check on appliances that have been identified as unsafe and isolated/condemned by a Cadent engineer.</li> <li>• To offer wider support with issues such as housing, debt, general poverty and health through signposting and Harvey Girls referral networks.</li> </ul>
<p><b>Why the Project is Being Funded Through the VCMA</b></p>	<p>Cadent believe that this project meets all the required VCMA eligibility criteria.</p> <p><b>A. The project is forecasted to have a positive SROI. Please see the relevant section for more information.</b> We believe this project has the deliverables necessary to create a positive social return on investment - see the below section for more details.</p> <p><b>B. The project will either:</b></p> <p>i. <b>Provide support to consumers in vulnerable situations, and relate to energy safeguarding, or</b></p>



	<p>ii. <b>Provide awareness on the dangers of CO, or</b></p> <p>iii. <b>Reduce the risk of harm caused by CO</b>          The project will provide support to customers living in vulnerable situations through energy efficiency advice/income maximisation. The project will also offer customers education on the dangers of CO and issue audible alarms to particularly at-risk households. Finally, the project will reduce the risk of harm caused by CO through offering free safety checks on unsafe appliances that have not been historically serviced by a gas safe registered engineer.</p> <p><b>C. The project has defined outcomes and the associated actions to achieve them.</b>          This project has clearly defined outcomes and associated outcomes, the meeting of which will quantify success. Further information on the project's outcomes and associated actions can be found in the relevant section below.</p> <p><b>D. The project goes beyond the activities funded through other price control mechanisms or required by licence obligations.</b>          The method in which energy efficiency, gas safety and income maximisation advice is issued to families on this project is innovative and goes beyond BAU. Additionally, the offer of a free gas appliance safety check conducted by an upskilled Cadent engineer is a first for the VCMA and business as a whole.</p> <p><b>E. Not be delivered through other external funding sources directly accessed by a GDN, including through other government (national, devolved, or local) funding.</b>          This project will be delivered solely through Cadent's VCMA funding.</p>
<p><b>Evidence of Stakeholder/Customer Support</b></p>	<p>Cadent's <sup>7</sup>independent customer engagement group report for its RIIO-GD2 business plans contains feedback on a variety of proposals, including Cadent's ambitions for tackling fuel poverty.</p> <p>The report supported Cadent's holistic approach to tackling fuel poverty, whereby a household is supported with a combination of services/advice.</p>

<sup>7</sup> <https://cadentgas.com/nggdwsdev/media/Downloads/business-plan/Cadent-CEG-report-with-appendices.pdf>



	<p>The CEG recognised the need for a holistic approach that supports a household with its fuel prices (FPNES), energy efficiency (advice/repair and replacement) and household income (income maximisation).</p> <p>The Harvey Girls "Be Well, Be Energy Fit" Project adopts this holistic approach by offering families support with home energy efficiency, income maximisation and wider referrals to health partners. Additionally, the project also offers families a means of reducing their risk of exposure to the dangers of carbon monoxide through the installation of audible alarms and the checking of appliances for safety.</p> <p>Local stakeholders have also supported the delivery of the "Be Well, Be Energy Fit" Project in East Staffordshire.</p> <p>East Staffordshire Family Support Service chief executive Ian North stated:</p> <p>"As we approach winter, this is a crucial time for many families who may be concerned about the costs of keeping their home warm. Our charity believes that a warm, safe home environment helps to form the foundation of a secure, happy, and healthy family home. Where the whole family are safe and supported, children have the best start in life."</p> <p>Focussing on stakeholder/customer support for carbon monoxide safety initiatives, Cadent's RIIO-GD2 business plan formations requested feedback from employees. Staff were asked to select an area of focus from a wide-ranging list that Cadent should prioritise in the new price control.</p> <p>Our employees highlighted the importance of CO awareness, ranking this as the fifth-highest priority out of a wide-ranging list. (4.43 out of 5). Our employees come from a wide range of communities and demographics from across the country, and it is clear that CO safety is a priority for all.</p>
<p><b>Information Required</b></p>	<p><b>Description</b></p>
<p><b>Outcomes, Associated Actions and Success Criteria</b></p>	<p><u>Project Outcomes</u></p> <p>The VCMA project will be delivered in partnership with East Staffordshire based charity Harvey Girls and aims to support approximately 480 people with home energy, income, and safety issues over the project's initial 12-month duration.</p>

The "Be Well, Be Energy Fit" Project aims to achieve the following outcomes:

- Provide advice to customers on numerous topics including benefit entitlement checks, energy advice, income maximisation, carbon monoxide education and wider health and wellbeing support.
- Provide slow cooking classes to local families to promote the potential affordability, efficiency, and health benefits.
- Provide families with fully funded safety checks on dangerous appliances that have not been serviced for a number of years due to the household's inability to afford the service.
- Provide families with awareness and a means of registering to the priority services register.

#### Associated Actions

- Cadent's VCMA contribution will be used to principally fund a team of Harvey Girls support workers. This team will conduct home visits to Harvey Girls clients that live in areas of fuel poverty and are experiencing financial hardship.
- Harvey Girls support workers will form and maintain relationships with local families, building trust to effectively deliver a range of support. This support includes energy efficiency advice, benefits entitlement checks, income maximisation, carbon monoxide education and assistance with wider issues such as housing, welfare, education, and health.
- Harvey Girls will report instances of unsafe appliances and gas emergencies through the National Gas Emergency helpline, resulting in a Cadent engineer attending to make safe and trigger the gas safety check process.
- Cadent's upskilled engineers will attend referred properties and conduct safety checks on dangerous gas appliances. Onward referrals will then be made in scenarios where further repair/replace works are required.

- Harvey Girls will coordinate the delivery of slow cooking classes to client families who stand to benefit from support with energy efficiency and financial savings advice.
- Cadent will provide Harvey Girls staff with awareness on the priority services register and information on the process for registration.

### Success criteria

The success of the project will be evaluated against the meeting of the project's objectives. These objectives include:

1. The project will reach approximately 460 people over the course of the initial 12-month duration.
2. 360 customers will receive a home visit from a Harvey Girls support worker. Clients will be offered assistance on a number of topics as part of the home visits, including energy efficiency advice, benefit entitlement checks, income maximisation and carbon monoxide education. Clients will also receive free audible carbon monoxide alarms where appropriate.
3. 25 properties (60 individuals with 2.4 multiplier applied) will be the beneficiaries of free safety checks on their unsafe gas appliances that have not been serviced in several years. Households will be selected in part due to their ability to afford to commission a gas safe registered engineer through their own financial means.
4. 50 households (120 individuals with 2.4 multiplier applied) will receive practical support with slow cooking. These clients will also be issued with information on the potential financial, efficiency and health benefits of slow cooking.
5. Approximately 150 households will receive awareness and a means of registering to the priority services register.

As well as aiming to reach a target number of customers, Cadent and Harvey Girls will review the qualitative benefits/indicators of the project as part of the final evaluation.

Meeting of the below indicators will help Cadent determine the success of the project:

	<ul style="list-style-type: none"> <li>• Customers will realise increases in household income through ensuring that they are claiming the benefits that they are entitled to.</li> <li>• Customers will report a decrease in anxiety and stress due to receiving support with home energy, financial and wider issues. Customers will also report reduced levels of anxiety due to receiving the support on offer through priority service register registration.</li> <li>• Customers will be able to utilise slow cooking to make affordable and healthy meals whilst reducing their energy and food bills.</li> <li>• Households will report an increased awareness of the dangers of carbon monoxide and an increased feeling of safety at home.</li> <li>• Customers will report increased feelings of control and an improvement in knowledge on home energy efficiency techniques.</li> <li>• Households will report feelings of increased comfort and safety at home due to receiving support with free gas appliance safety checks.</li> </ul>
<p><b>Project Partners and Third Parties Involved</b></p>	<p>Harvey Girls - an East Staffordshire based family support charity.</p>
<p><b>Potential for New Learning</b></p>	<p>The main piece of learning that this project offers is around the success of utilising Cadent's own field force to perform Services Beyond the Meter.</p> <p>Historically, Cadent engineers have solely made customers' gas installations safe, irrespective of their vulnerability and financial means to afford 3rd party investigations and repairs.</p> <p>Cadent has used a portion of its VCMA funding to trial an approach whereby engineers are upskilled to be able to work on appliances/pipework beyond the meter.</p> <p>As well as offering this service to customers in vulnerable situations identified through Cadent's own reactive work, this project tests a model where partners inform Cadent of dangerous situations that warrant an emergency visit. Cadent engineers will first attend and isolate or condemn an appliance(s), before conducting gas appliance safety checks.</p>

	<p>Cadent has previously utilised a partner to perform services such as gas appliance safety checks, repairs, and replacements. This approach has delivered success. However, we believe that the upskilling of Cadent's workforce to be able to offer Services Beyond the Meter provides a number of advantages including:</p> <ul style="list-style-type: none"> <li>• Making every contact count. Early pilots of Cadent-delivered Services Beyond the Meter have restored customer's gas supplies in shorter lead times versus third party delivered services.</li> <li>• Customer journey. Many customers (particularly customers in vulnerable situations) are not aware of the dynamic and areas of responsibility pre and post ECV. An approach whereby Cadent refers externally to partners to deliver Services Beyond the Meter further exacerbates this confusion. Contrastingly, Service Beyond the Meter delivered by a consistent provider (Cadent) offer households a smoother customer journey.</li> <li>• More effective spend of VCMA. Initial trials of Cadent-delivered Services Beyond the Meter have demonstrated efficiencies and cost savings when compared to externally delivered Services Beyond the Meter.</li> </ul> <p>The opportunity to further test the delivery model using Cadent engineers will offer learning on the consistency of the above advantages over a 12-month project.</p>
<p><b>Scale of VCMA Project and SROI Calculations</b></p>	<p><u>Scale of VCMA Project</u></p> <p>The Harvey Girls "Be Well, Be Energy Fit" Project will deliver support for an initial 12-month duration. The project will focus on the provision of advice and safety checks to approximately 480 customers.</p> <p>This total reach will be divided between:</p> <ul style="list-style-type: none"> <li>• 150 households (360 individuals with 2.4 multiplier applied) will receive a home visit from a Harvey Girls support worker.</li> <li>• From this customer group, 25 households (60 individuals with 2.4 multiplier applied) will receive support through free safety checks on dangerous gas appliances that have been isolated/condemned by a Cadent engineer.</li> </ul>

- 50 households (120 individuals with 2.4 multiplier applied) will receive practical support with the use of slow cookers. Additionally, these households will be offered information on the potential financial, efficiency and health benefits of slow cooking.

### Social Return on Investment Calculations

- Forecasted 5-year social return on investment = £312,619.98
- Forecasted 1-year social return on investment = £35,502.316
- Investment = £33,777.10
- Forecasted total 5-year gross present value = £346,397.08
- Forecasted gross present value from the issuing energy/income advice = £228,475.25
- Forecasted gross present value from providing carbon monoxide alarms and education = £2,945.72
- Forecasted gross present value from conducting safety checks on dangerous gas appliances = £93,397.11
- Forecasted gross present value from registering customers to the priority services register = £21,579

### Gross present value from the issuing of energy/income advice

The majority of Cadent's VCMA funding on this project will be used by Harvey Girls to deliver home visits through their team of family support workers.

The support workers will offer face to face support to households with a variety of services including in-home energy efficiency advice and income maximisation.

Cadent employed SROI consultants SIA Partners to evaluate the average 5-year gross present value from a series of energy advice and income maximisation topics.

For the purpose of calculating gross present value to be delivery by the family support workers, we

have split the energy/income advice topics into the following categories:

### Energy efficiency advice

Efficient use of appliances = £367.77

Forecasted success rate = 80%

Number of households forecasted to receive benefit = 120

Forecasted 5-year gross present value = £44,132.40

Heating/hot water controls = £332.33

Forecasted success rate = 80%

Number of households forecasted to receive benefit = 120

Forecasted 5-year gross present value = £39,879.60

### Income maximisation

Income maximisation/benefits claim = £1717.11

Forecasted success rate = 50%

Number of households forecasted to receive benefit = 75

Forecasted 5-year gross present value = £128,783.25

Warm Homes Discount = £140.00

Forecasted success rate = 75%

Number of households forecasted to receive benefit = 112

Forecasted 5-year gross present value = £15,680

Harvey Girls staff are trained on issuing support on the above topics and are also highly skilled in identifying households that have previously not received these types of assistance. This is reflected by the success rate percentages, indicating the proportion of households that expect to receive and benefit from each service.

The project aims to reach a total of 150 households (360 individuals with 2.4 multiplier applied).

The total 5-year gross present value expected to be realised through the issuing of energy/income advice is £228,475.25

### Gross present value from issuing carbon monoxide alarms and education

Analysis conducted by SIA Partners that contributed towards Cadent's RIIO-2 business plans submission evaluated the social return on investment generated



by the issuing of carbon monoxide alarms and education.

### The Issuing of Carbon Monoxide Alarms

We forecast that a 5-year gross present value of £1,636.45 will be realised by issuing carbon monoxide alarms.

The following assumptions have been made as part of the below calculations:

- Each alarm that is provided will be installed by the customer in their home. It is assumed that all of the people that this initiative reaches take action.
- The average household size in the UK is <sup>8</sup>2.4 people.

### The Avoidance of A&E Visits due to CO Poisoning

- Approximately 150 households will receive a carbon monoxide alarm through this project.
- The average household in the UK contains 2.4 people, giving a total project reach of 360 people.
- Statistics report that there are <sup>9</sup>4,000 A&E visits per year attributable to CO in England.
- The population of England is reported as <sup>10</sup>55,619,430, with the A&E visits linked to CO representing 0.00719% of the population.
- 0.00719% of 360 customers equates to 0.129 avoided A&E visits across the five years of RIIO-GD2.
- An A&E visit costs the NHS <sup>11</sup>£134 on average, giving a total 5-year saving of £17.35

### Social Return from a Reduction in Long Term Hospital Visits Linked to CO

- Approximately 150 households will receive a carbon monoxide alarm through this project.

<sup>8</sup> <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/families/bulletins/familiesandhouseholds/2016>

<sup>9</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/260211/Carbon\\_Monoxide\\_Letter\\_2013\\_FinalforPub.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/260211/Carbon_Monoxide_Letter_2013_FinalforPub.pdf)

<sup>10</sup> [https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwales/scotlandandnorthernireland\\_\(2017\\_figure\)](https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwales/scotlandandnorthernireland_(2017_figure))

<sup>11</sup> <https://www.pssru.ac.uk/pub/uc/uc2018/services.pdf>

- The average household in the UK contains 2.4 people, giving a total project reach of 360 people.
- Statistics report that there are <sup>12</sup>200 long-term hospital visits each year attributable to CO in England and Wales.
- The population of England and Wales is reported as <sup>13</sup>58,744,595, with long-term hospital visits linked to CO representing 0.00034% of the population.
- 0.00034% of 360 customers equates to 0.0061 avoided long-term visits across the five years of RIIO-GD2.
- A long-term hospital visit costs the NHS £3,026 on average, giving a total 5 year saving of £18.54.

#### Social Return from a Reduction in Injuries Caused by CO that Led to Time of Work

- Approximately 150 households will receive a carbon monoxide alarm through this project.
- The average household in the UK contains 2.4 people, giving a total project reach of 360 people.
- Statistics report that there are 200 long-term hospital visits each year attributable to CO in England and Wales.
- The population of England and Wales is reported as 58,744,595, with long-term hospital visits linked to CO representing 0.00034% of the population. Customers admitted to hospital long-term are likely to take time off work as a result of their injury.
- 0.00034% of 360 customers equates to 0.0061 customers avoiding time off work and long-term visits across the five years of RIIO-GD2.
- The cost of time off work as a result of an injury costs £233.76 per occurrence. This gives a total 5 year saving of £1.43.

<sup>12</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/260211/Carbon\\_Monoxide\\_Letter\\_2013\\_FinalforPub.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/260211/Carbon_Monoxide_Letter_2013_FinalforPub.pdf)

<sup>13</sup> [https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforenglandandwales/scotlandandnorthernireland\\_\(2017\\_figure\)](https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforenglandandwales/scotlandandnorthernireland_(2017_figure))

## Social Return from a Reduction in Deaths Linked to CO

- Cadent estimates that 150 households will receive a carbon monoxide alarm through this project.
- The average household in the UK contains 2.4 people, giving a total project reach of 360 people.
- Statistics report that there are <sup>14</sup>30.3 deaths per year in the UK linked to CO.
- The population of the UK is <sup>15</sup>66,040,200, with deaths attributable to CO representing 0.0000459% of the population.
- 0.0000459% of 360 customers equates to 0.0008 avoided fatalities linked to CO across the 5-year period of RIIO-GD2.
- The value of preventing a death to UK PLC is <sup>16</sup>£1,897,129. This gives a total five-year value of £1,566.76.

## Social Return from Avoided Ambulance Calls

- Cadent estimates that 150 households will receive a carbon monoxide alarm through this project.
- The average household in the UK contains 2.4 people, giving a total project reach of 3,60 people.
- Sia Partners worked on an assumption that \*100% of patients who are taken to A&E due to CO poisoning are transported by ambulance.
- Statistics report that there are 4,000 A&E visits per year attributable to CO in England.
- The population of England is reported as <sup>17</sup>55,619,430, with the A&E visits linked to CO representing 0.00719% of the population

<sup>14</sup> <http://www.co-gassafety.co.uk/wp-content/uploads/2019/01/Statistics-sheet-presspack-Jan-2019-18.01.19.pdf>

<sup>15</sup> <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates> (2017 figure)

<sup>16</sup> <https://www.gov.uk/government/statistical-data-sets/ras60-average-value-of-preventing-road-accidents>

<sup>17</sup> <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwales/scotlandandnorthernireland> (2017 figure)

- 0.00719% of 360 customers equates to 0.129 avoided A&E visits across the five years of RIIO-GD2.
- The average cost of an ambulance call is £250, giving a total 5-year saving of £32.36.

### The issuing of carbon monoxide education

We forecast that a 5-year gross present value of £1,309.27 will be realised by issuing carbon monoxide education

Sia Partner's also evaluated the levels of social return that can be expected from educating customers on the signs, symptoms, and dangers of carbon monoxide.

Each household that received an alarm will also receive 1-2-1 education on the signs, symptoms and dangers of CO.

The analysis found that social return could be identified from the same sources and calculations as CO alarms (avoided A&E visits, avoided long-term hospital visits, avoided time off work due to injury, avoided CO-related deaths and avoided ambulance call).

However, a retention rate must be applied, as it is not reasonable to expect all customers to understand and utilise the safety information issued by the Harvey Girls family support workers.

A retention rate of 80% has been applied to the project, meaning that 8 out of 10 households will retain the information issued as part of the CO education.

The below social return is forecast based on an 80% retention rate:

### Gross present value from the Avoidance of A&E Visits due to CO Poisoning

- Forecasted 5-year gross present value = £13.88

### Gross present value from a Reduction in Long Term Hospital Visits Linked to CO

- Forecasted 5-year gross present value = £14.84

### Gross present value from a Reduction in Injuries Caused by CO that Led to Time of Work

- Forecasted 5-year gross present value = £1.26

### Gross present value from a Reduction in Deaths Linked to CO

- Forecasted 5-year gross present value = £1,253.41

### Gross present value from Avoided Ambulance Calls

- Forecasted 5-year gross present value = £25.89

### Conducting safety checks on dangerous gas appliances

We forecast that a 5-year gross present value of £93,397.11 will be realised through this section of the project.

This element of the project centres on Cadent engineer conducting gas safety checks on appliances in the homes of 25 customers. These customers do not have the financial means to purchase gas appliance servicing/repairs/replacements through their own financial means.

Harvey Girls staff will identify dangerous appliances that are poorly maintained and have not been serviced in a number of years. The appliances will range in type between gas central heating boilers, gas fires and gas cookers/hobs.

As part of RIIO-GD2 business plan formations, Cadent commissioned consultancy firm Sia Partners to evaluate the gross present value to be realised from repairing/replacing dangerous gas appliances.

This project shares similarities in that the customer's appliances will be confirmed as safe (in the event they pass the safety check) or repaired or replaced (if further work is required).

Both scenarios result in a customer's gas supply being maintained and their appliance safely operating in the years to come.

Sia Partners split the social benefits of repairing/replacing gas appliances into the following categories:

- Avoided deaths caused by CO poisoning

- Avoided long-term hospital stays
- Reduced risk of illness through living in a warm home
- Reduced risk of excess winter death through living in a warm home

25 households will receive this service through the initial 12-months of the project.

Sia Partner's evaluations focus on the repair and replacement of appliances that are sources of heat.

Cadent has used an assumption that 50% of the properties visited will have a dangerous gas appliance that is a source of heat and will require checking for safety. This equates to a total of 13 gas appliances that are a source of heat being checked for safety.

#### Avoided carbon monoxide related deaths

- The safety check and subsequent repair/replacement of gas appliances will eliminate any risk of carbon monoxide poisoning for five years post-repair.
- On average, 30.3 UK deaths on an annual basis are caused by CO poisoning.
- The estimated population of the UK is 66,040,200.
- The percentage of the UK population that may experience a CO-related death on an annual basis is equal to 0.00005%.
- Assuming the average size of a household is 2.4 people, we would expect the initiative to impact 13 households \* 2.4 people = 31.2 people.
- Therefore, this initiative can expect to yield a benefit in the form of foregone deaths due to CO poisoning of  $31.2 * (30.3 / 66,040,200) = 0.000071$  people over five years post-repair.
- The value of a prevented fatality in the UK is £1,897,129.00. This equates to a 5-year social benefit of  $0.000071 \text{ people} * £1,897,129.00 = £136$ .

#### Avoided CO-related hospital admissions (long term stay)

- On average, 200 people are hospitalised in England & Wales each year due to CO poisoning.
- The estimated population of England & Wales is 58,744.595.
- The percentage of the England & Wales population that may be hospitalised due to CO poisoning on an annual basis is equal to 0.00034%.
- Therefore, this initiative can expect to yield a benefit in the form of a foregone CO-related hospitalisation to  $31.2 * (200 / 58,744,595) = 0.00053$  people over five year post-repair.
- The average cost of a long-term hospital stay is £3,026.00. This equates to a 5-year social benefit of  $0.00053 * £3,026.00 = £1.61$

#### Comfortable and warm homes reduce the likelihood of illness

- Visits to GP's for respiratory tract infections increase by up to <sup>18</sup>19% for every one degree drop in mean temperature below 5°C in homes.
- We have assumed that the success rate is 19%, that is, without the initiative the customers would experience at least a 19% higher risk of respiratory tract infections requiring at least one visit to their GP.
- Therefore, the initiative can expect to yield a benefit in the form of reduced risk of illness to  $19% * 31.2$  people = 29.64 fewer visits to the GP over a 5-year period.
- The average cost of a GP consultation lasting 9.22 minutes is <sup>19</sup>£37.00. This equates to a total social benefit of £1,096.68 over a 5-year period post-repair.

#### Comfortable and warm homes reduce the likelihood of excess winter deaths

- In 2017/2018, <sup>20</sup>16,980 excess winter deaths in the UK were attributable to cold housing conditions.

<sup>18</sup> [https://fingertips.phe.org.uk/documents/Fuel\\_poverty\\_health\\_inequalities.pdf](https://fingertips.phe.org.uk/documents/Fuel_poverty_health_inequalities.pdf) (2014)

<sup>19</sup> <https://www.pssru.ac.uk/pub/uc/uc2017/community-based-health-care-staff.pdf> (2017)

<sup>20</sup> <https://www.e3g.org/news/media-room/17000-people-in-the-uk-died-last-winter-due-to-cold-housing>



	<ul style="list-style-type: none"> <li>• The estimated population of England &amp; Wales is 58,744,595.</li> <li>• The likelihood of an excess winter death in England &amp; Wales is therefore <math>16,980 / 58,744,595 = 0.02875\%</math>.</li> <li>• Therefore, the initiative can expect to yield a benefit in the form of avoided excess winter deaths to <math>0.02875\%</math> of 31.2 people = 0.0449 people over a 5-year period post-repair.</li> <li>• The value of a prevented fatality in the UK is £1,897,129. This equates to a total social benefit of £85,091 over a 5-year period post repair.</li> </ul> <p><u>Priority services register</u></p> <p>Harvey Girls family support workers will offer awareness and a means of registering to the priority services register as part of their home visits.</p> <p>Cadent has forecasted that approximately 150 households will be supported with registration to the priority services register.</p> <p>Cadent employed consultants from SIA Partners to evaluate the average gross present value to be realised by registering a household to the priority services register.</p> <p>SIA Partners cited the DNO proxy bank value of £35, linked to the average cost of a stress management course - priority services register registration provides additional support during an outage and reduces stress.</p> <p>SIA Partner's attributed a value of £143.89 as the 5-year gross present value of priority services register registration.</p> <p>150 households each receiving this value equates to a total gross present value of £21,579</p>
<p><b>VCMA Project Start and End Date</b></p>	<p>Project start date: 01/10/2021 Project end date: 30/09/2022</p>
<p><b>Geographical Area</b></p>	<p>The project will be delivered in East Staffordshire communities situated in Cadent's Eastern Network.</p>
<p><b>Remaining Amount in the Allowance at Time of Registration</b></p>	<p>To be confirmed upon Director of Sustainability and Social Purpose sign-off.</p>

## Gas Network Vulnerability and Carbon Monoxide Allowance (VCMA) Governance Document - PEA Control Table

In order to ensure that a VCMA project is registered in accordance with the Ofgem VCMA governance document (incl. project eligibility assessment), the below table should be completed as part of the project registration process.	
Stage 1: Sustainability & Social Purpose Team PEA Peer Review	
Date Immediate Team Peer Review Completed: 30 March 2022	Review Completed By: Gemma Norton
Stage 2; Sustainability & Social Purpose Team Management Review	
Date Management Review Completed: 30 March 2022	Review Completed By: Phil Burrows
Step 3: Director of Sustainability & Social Purpose Sign-Off: Mark Belmega	
Director of Sustainability & Social Purpose Sign-Off Date: 31/03/2022	
Step 4: Upload PEA Document to the Website & Notification Email Sent to Ofgem (vcma@ofgem.gov.uk)	
Date that PEA Document Uploaded to the Website: March 2022	
Date that Notification Email Sent to Ofgem: March 2022	