Cadent
Your Gas Network

Vulnerability & Carbon Monoxide Allowance (VCMA)

Project Eligibility Assessment (PEA)

Preventing Harm from Environmental Exposure to Carbon Monoxide (PHECO) - E-Learning for Health Paramedics and A&E

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

Section 1 - Eligibility criteria for company-specific projects (other than condemned essential gas appliance repair and replacement) In order to qualify as a VCMA project, a project must:	
VCMA Eligibility Criteria	**Criteria Satisfied (Yes/No)**
a) Have a positive, or a forecasted positive, Social Return on Investment (SROI) and Net Present Value (NPV) including for the gas consumers funding the VCMA Project (GDNs should use a common SROI model.	Yes
b) Either: **i.** Provide support to consumers in vulnerable situations, and relate to energy safeguarding, or **ii.** Provide awareness on the dangers of CO, or **iii.** Reduce the risk of harm caused by CO.	Yes
c) Have defined outcomes and the associated actions to achieve these;	Yes
d) Go beyond activities that are funded through other price control mechanism(s) or required through license obligations; and	Yes
e) Not be delivered through other external funding sources directly accessed by a GDN, including through other government (national, devolved or local) funding.	Yes
Section 2 - Eligibility criteria for company-specific essential gas appliance servicing To qualify as a VCMA Project, essential gas appliance servicing must meet the following criteria:	
a) Either: i. A GDN has had to isolate and condemn an essential gas appliance following a supply interruption or as part of its emergency service role; or ii. A GDN or its Project Partner has identified an essential gas appliance which has not been serviced in the last 12 months in the owner-occupied home of a customer in a Vulnerable Situation where an occupier of the property suffers from a permanent or temporary health condition that makes them more vulnerable to health risks associated with cold homes; or iii. A GDN or its Project Partner has identified an essential gas appliance which has not been serviced in the last 12 months in a tenant-occupied home of a customer in a Vulnerable Situation where it is the tenant's responsibility to maintain the essential gas appliance, where an occupier of the property suffers from a permanent or temporary health condition that	N/A

makes them more vulnerable to health risks associated with cold homes.	
b) The household cannot afford to service the essential gas appliance, which is assessed against criteria consistent with the Energy Company Obligation (ECO4) Guidance: Delivery document1 (see Appendix 1).	N/A
c) Sufficient funding is not available from other sources (including a social or private landlord, national, devolved, local government funding) to fund the essential gas appliance service.	N/A

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

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

Information Required	**Description**
Project Title	**Preventing Harm from Environmental Exposure to Carbon Monoxide (PHECO) - E-Learning for Health Paramedics and A&E**
Funding GDN(s)	Cadent
New / Updated (indicate as appropriate)	New
Role of GDN(s) ***For Collaborative VCMA Projects only**	Cadent
Date of PEA Submission	January 2026
VCMA Project Contact Name, email and Number	Name: Phil Burrows Title: Head of Customer Vulnerability Social Programme Delivery Email: phil.m.burrows@cadentgas.com Number: 07773 545451
Total Cost (£k)	£79,160.00
Total VCMA Funding Required (£k)	£82,326.40 including 4% project management costs, excluding VAT

Problem	**Low awareness of carbon monoxide (CO) poisoning among healthcare and frontline emergency staff** Awareness of the dangers of carbon monoxide (CO), how to identify potential poisoning and protect those exposed remains low among many healthcare workers. This needs to be corrected particularly amongst those working in emergency and urgent care as well as ambulance personnel. This lack of awareness may be contributing to under-recognition, delayed diagnosis and failure to protect those being harmed, particularly in our most vulnerable communities. **Underdiagnosis and underreporting** CO poisoning is significantly underdiagnosed. The National Institute for Health and Care Excellence reports that there are around 40 deaths and over 440 hospital admissions each year related to CO poisoning.[2]However, the Office of National Statistics figures indicate a much higher ten-year average of 178 deaths per year, including non-accidental poisonings.[3] Data from fire and rescue services (FRS) show over 17,000 CO-related incidents between 2012 and 2022, with more than 2,000 victims (excluding suicides), an average of over 200 per year[4]. These figures only represent known and reported cases, suggesting the true burden of CO exposure is likely much higher. Limited studies are available on how often CO poisoning is accurately diagnosed in the emergency department (ED) and how often a diagnosis is missed. One study suggested the probability of missing a diagnosis of CO poisoning to currently be up to 98%[5]. Anecdotal evidence exists in the form of cases reported in the press where patients who have been unknowingly exposed to CO from domestic sources have been sent home after seeking medical attention for their symptoms and have died from the continued exposure[6]. **Low-level exposure and hidden risks** Emerging studies highlight the dangers of chronic low-level CO poisoning, which may not trigger alarms or obvious symptoms but still causes harm over time. In one study, 18% of 270 homes tested had CO levels exceeding World Health Organisation (WHO) guidance[7]. Another found 22% of homes had a faulty gas appliance[8]. Such findings indicate that low-level exposure is widespread yet often goes unnoticed even by healthcare professionals. **Inequality, deprivation, and fuel poverty** CO exposure risk is closely linked with fuel poverty and social deprivation, both known to worsen health inequalities[9]. Those living in lower socioeconomic groups are more likely to experience CO exposure due to poorly maintained or inefficient heating systems, lack of regular

[2] Carbon monoxide poisoning | Health topics A to Z | CKS | NICE

[3] Carbon monoxide deaths and poisonings for the past 10 years - Office for National Statistics

[4] Carbon monoxide incidents, 2012 to 2023 - GOV.UK

[5] European Journal of Emergency Medicine

[6] Gas leak fear after family of four are found dead | UK news | The Guardian 'Poison leak' from faulty gas fire behind couple's death | Metro News

[7] Real time carbon monoxide measurements from 270 UK homes

[8] Self-reported neurological symptoms in relation to CO emissions due to problem gas appliance installations in London: a cross-sectional survey | Environmental Health | Full Text

[9] Fuel poverty is intimately linked to poor health | The BMJ

	appliance servicing, and limited financial means to make repairs or challenge unsafe housing conditions. Approximately 10.7 million people in England live in the lowest two deciles of social deprivation[10]. These individuals are also up to 1.7 times more likely to require GP or emergency care than those in less deprived areas[11]. This intersection of deprivation, health inequality, and environmental risk means that CO poisoning is most likely to affect people who already have limited healthcare access, yet frontline staff may not associate their symptoms with CO exposure. **Lack of awareness on CO from frontline/ emergency healthcare staff** There are several reasons why CO poisoning remains under-recognised in healthcare settings: 1. **Non-specific symptoms**: CO poisoning can mimic common illnesses such as flu, viral infections, fatigue, or migraines. Without a high index of suspicion, clinicians may not consider CO exposure as a cause. 2. **Limited training and awareness**: CO poisoning is rarely covered in depth during professional education or ongoing training for GPs, ambulance, and emergency staff.[11] 3. **Absence of clear pathways**: there are few established clinical or referral pathways for suspected CO exposure. Even when exposure is suspected, systems for coordinated follow-up, housing safety checks, and protection from repeat exposure are inconsistent or absent. 4. **Low public awareness:** In a 2020 survey of 8,000 people by the Gas Distribution Networks (GDNs), only 42% reported having a working audible CO alarm. Early data from the CO in Pregnancy study shows around 65% of participants had an alarm.

Scope and Objectives	Building on the recently developed suite of eLearning modules covering pregnancy, medical examiners and vulnerable adults (Preventing Harm from Environmental Carbon Monoxide Exposure), this project will create two new role-specific modules. These will support workers from **ambulance services,** and **emergency departments** to better understand the harms caused by CO poisoning, identify those at potential risk, have impactful conversations and take effective action to protect them from harm. These learning packages will be made available through NHS England's (NHSE) eLearning for healthcare (elfh) platform. Formed in 2007, it [elfh] delivers a vast number of programmes of learning for a wide range of health and social care staff. It has over two million registered users and delivers more than 450 e-Learning programmes in collaboration with organisations including Royal Colleges, Department of Health and Social Care, the Office of Health Inequalities and Disparities. It also works with a broader group of organisations that support evidence based and high-quality practice in health and social care. Improving

[10] People living in deprived neighbourhoods - GOV.UK Ethnicity facts and figures.

[11] The Health Of People From Ethnic Minority Groups In England | The King's Fund

	Performance in Practice have led or been involved in developing six elfh training modules. The overall aims are to: 1. Ensure that those key groups mentioned above have **access to high quality, evidence based training,** ensuring they are better able to identify those exposed or potentially exposed to carbon monoxide, have impactful conversations and understand the appropriate actions to help protect those individuals and record incidence of poisoning to aid an understanding of the scale of the problem. 2. **Grow the relationships** between gas distribution and health organisations to benefit the most vulnerable communities. 3. **Support the development of pathways, protocols, and interventions** to help ensure that when those from vulnerable groups are identified as potentially being exposed, they are supported to identify the source, safely remove the harm, and receive any required treatment. **Development process and key milestones** **A codesign process** will be used, collaborating closely with the experts within the required fields and the elfh design team at NHSE. All of the groups will have their own subject matter and clinical experts to ensure the material produced sits alongside existing clinical and professional guidelines and resonates with the targeted professionals. **Key stakeholders will include** academic and clinical experts in CO and the target populations, along with representatives from other key agencies and charities such as CORGI, CO Research Trust (CORT), Association of Ambulance Chief Executives (AACE) and the Royal College of Emergency Medicine (RCEM). **Project steps and timing (**Some steps will occur concurrently with others, the overall timescale is 15 months) **Step one - three months** • Identify the key individuals and clinical leads • Undertake literature and messaging reviews • Research the sessions audiences • Agree key learning outcomes • Create the e-Learning templates/structures **Step two – four months** • Review the evidence and messaging • Identify and agree overall structure • Identify use of animation and film • Agree content, written, animation and film • Identify pilot sites **Step three – five months** • Prepare the written content, including the session assessment • Prepare the guidelines for animation • Prepare scripts • Undertake filming • Review materials with clinical leads and key professional groups

	• Agree the required analytics **Step four – four months** • Work with elfh development team to build the sessions • Prepare the pilot sites for implementation • Prepare communication strategies **Step five – five months** • Sign off the module designs with key groups and individuals. • Pilot modules **Step six – four months** • Undertake any changes/additional requirements • Launch sessions
Why the Project is Being Funded Through the VCMA	There is a recognition that CO poisoning can affect anyone, and it is essential to provide appropriate advice to help protect all population groups. While some individuals will be able to take the necessary preventive actions independently, others may require additional support to do so. These new modules will be designed to promote a broad understanding of CO risks and the measures needed to prevent exposure across diverse communities with highly different needs and abilities to protect themselves. These resources will benefit some of the most vulnerable groups across the UK by enabling frontline professionals to: • Understand of the dangers of CO poisoning. • Recognise potential symptoms and sources of harm. • Understand the actions required to prevent or remove harm. Those professionals will also be able to ensure that vulnerable clients/patients know about and are able to access the Priority Services Register (PSR). This will support those who need extra help with everyday energy matters like bills, and also in the unlikely event of a power cut, gas or water supply interruption. The e Learning for Health platform is the key platform for eLearning for health professionals. This allows a reach which is not possible via other platforms or methods. This partnership service goes above and beyond the core responsibilities of a Gas Distribution Network and is eligible under the VCMA funding criteria as it will provide support and access to CO advice, empowering vulnerable households to use energy safely. This partnership aligns to two pillars (2 and 4) of the GDNs commitment to deliver support services to customers aligned to our four strategic pillars: 1. Services Beyond the Meter 2. **Supporting Priority Customer Groups** 3. Fuel Poverty & Energy Affordability 4. **Carbon Monoxide Awareness**

Evidence of Stakeholder/Customer Support	A number of recent studies underline the stakeholder interest in improving awareness, identification and management of CO exposure: • A UKHSA cross-sectional multi-centre UK study of patients in emergency departments (EDs) presenting with symptoms potentially consistent with CO exposure found a prevalence of suspected CO exposure of 0.62% (95% CI 0.41-0.91%) among 4,175 participants. Home investigations confirmed one definite case and 21 probable cases, many of which had normal carboxyhaemoglobin levels[12].This underlines the need for enhanced screening and professional awareness of CO risk among healthcare staff. • A survey in two emergency departments (January 2022–March 2023; 6,043 respondents) found that 63.1% of patients reported owning a CO alarm; alarm ownership was significantly lower among renters (58.0%) than homeowners (67.4%), and among ethnic minority respondents (58.0%) compared to white respondents (68.9%). A large proportion had never tested their alarms (20.8%) or had them incorrectly placed (43.0%)[13]. These public awareness gaps reinforce the value of supporting healthcare staff and partner agencies to identify exposure risk in patients. • The report Policy Connect / All Party Parliamentary Carbon Monoxide Group, *"Prepare, Practice, Protect: Improving Carbon Monoxide Safety in Health and Care Services"* (July 2023) [14]reported that awareness of CO among health and social care professionals is "very low". Risk assessments were reported to occur in fewer than half of situations where they should be mandated. The report's first recommendation is that authorities should examine the public health and economic benefits of subsidising or providing grants for role-specific training and national resources for health and social care professionals. • A 2012 study examining presentations at four large emergency departments with 1758 patients found raised COHb levels in 4.3% of patients presenting with non- specific symptoms[15]. • The annual report of the Gas Distribution Networks Collaboration (VCMA) states that research has found "awareness of carbon monoxide (CO) poisoning amongst health and social care professionals is low"[16].The report noted that many key professionals lack the knowledge, skills and resources to support the identification of CO poisoning, in part because many symptoms mimic other conditions. • Additional academic work highlights the specifically low awareness within emergency care settings: in *"Carbon monoxide: raising awareness of the silent killer in the emergency*

[12] Screening patients for unintentional carbon monoxide exposure in the Emergency Department: a cross-sectional multi-centre study - UK Health Security Agency

[13] Carbon monoxide alarm ownership and maintenance in patients attending the Emergency Departments: a cross-sectional study - PubMed

[14] Policy Connect https://www.policyconnect.org.uk/research/prepare-practice-protect-improving-carbon-monoxide-safety-health-and-care-services-

[15] Screening for carbon monoxide exposure in selected patient groups attending rural and urban emergency departments in England: a prospective observational study | BMJ Open

[16] https://www.northerngasnetworks.co.uk/wp-content/uploads/2024/07/VCMA-Collaborative-Annual-Report-April-2023-March-2024.pdf

	department" [17]the authors observed that a high degree of clinical suspicion is needed since CO often presents with common symptoms such as headache, nausea or fatigue, and found that educational interventions (such as sticker-based prompts) may help raise awareness.
Information Required	**Description**
Outcomes, Associated Actions and Success Criteria	**Outcomes** **Within the project, two e-Learning modules will be developed that;** • Provide education to ambulance services/Paramedics and emergency departments. • Enable those professionals to have impactful conversations and provide information to patient/clients. • Identify potential CO poisoning, chronic and acute. • Facilitate the removal of risk. • Reduce harm to individuals. • Support patients/clients to access schemes such as the Priority Services Register (PSR). These modules will build on the previously built generic module. They will provide more detail about how to identify those at risk within these specific settings, job roles and scenarios along with the actions and conversations relevant to their specific job role. **Knowledge checks and assessments** Each section will end with the identification of key learning points. At the end of the module participants will be asked to complete a short multiple-choice assessment with a pass rate of 80%. This assessment will measure their post session knowledge of what CO is, understanding of sources of harm, how to identify and prevent potential harm and the key learning points for each professional group. **Analytics** Currently basic information is available about the engagement with each module this includes numbers accessing/completing the learning, time spent, number undertaking and passing the knowledge check. **Communications** During the development phase we will work with the key stakeholders and e-Learning for healthcare team to develop and implement a communication strategy. This will include: • Speaking at key health/social care events • Articles in professional journals • Using social media and podcasts • Messaging key agencies, royal colleges, and professional organisations • Messaging users on the elfh platform The elfh platform is accessible to all those with an NHS email account or an Open Athens account (from all four nations). Others can apply for

[17] Carbon monoxide: raising awareness of the silent killer in the emergency department | BMJ Open Quality

	access to the system directly or via Open Athens, these include those that offer services under contract with the NHS and social care providers. There will be a specific communication strategy for the other nations to ensure the key people are aware and have access to all resources on the platform. The resources developed during this process will be able to be utilised in other ways, for example we use extracts from some modules within virtual and face to face training sessions. Materials can be shared with organisations, such as Royal Colleges, if they consider the materials being on an internal platform would increase the reach within their profession. **Reach** There are an estimated 20,243 staff within Ambulance Service's/Paramedics, we are expecting around 100 of these to take up in the first year of the e-learning for health training modules becoming available. For purposes of calculations associated with this project this would be a total of 100 Ambulance Service/Paramedic professionals completing the role specific CO training, with an estimated customer reach of 6,000 conversations within the first year. Within A&E departments we estimate there are around 7,444 staff and around 120 of these will complete the e-learning for health training modules within the first year of the modules becoming available. For purposes of calculations associated with this project this would be a total of 120 professionals completing the role specific CO training, with an estimated customer reach of 6,750 conversations within the first year. We estimate around 10% of all 12,750 (1,275) customer conversations will signpost customers to the PSR.
Project Partners and Third Parties Involved	Improving Performance in Practice (iPiP) E Learning for Healthcare (a division of Health Education England). CO Research Trust (CORT) NHS England (NHSE) Office of Health Inequalities and Disparities (OHID) UK Health Security Agency (UKHSA) National Fire Chiefs Council (NFCC) Association of Ambulance Chief Executives (AACE) Royal College of Emergency Medicine (RCEM) Royal College of General Practitioners (RCGP)
Potential for New Learning	This project will increase the understanding of how those working in the NHS and Health and Social Care can: 1) Support the identification of those who are/have been exposed or potentially exposed to carbon monoxide. 2) Protect the most impacted and most vulnerable from the effects of CO poisoning. 3) Help identify and support those living in fuel poverty. 4) Support the understanding of the scale of the problem.

Scale of VCMA Project and SROI Calculations, including NPV	The GDNs worked with leading social impact research consultancy SIRIO Strategies on the development of the Industry Standard Social Value Framework and supporting GDN Rulebook. We have used that GDN Rulebook to carry out an assessment of the financial and wellbeing outcomes applicable to our services for vulnerable customers incorporated in this partnership. Following an assessment of the predicted outcomes we forecast a positive net Social Return on Investment of £5.04 This calculation was completed using the following: 12,750 customers to receive advice from Ambulance Service/Paramedics and A&E staff 220 professionals receiving role specific CO training 1,275 customers being signposted to the PSR via Ambulance Service/Paramedics and A&E staff Investment = £82,326.40 including 4% project management costs Gross present value = £477,628.06 Net present value = £398,557.09 Five-year social return on investment = £5.04
VCMA Project Start and End Date	January 2026 – May 2027
Geographical Area	Development, pilot, and early implementation across England, with engagement across all four Nations at the review stage prior to UK wide roll out.
Internal governance and project management evidence	The project will be led by the Director and overseen by a multi-agency steering group including the GDNs. Each element of the work will have a nominated lead who will be supported by a small group of key professionals that will form task and finish groups for each module. The leads will report to the Director, and the task and finish groups will report into the steering group.

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 and Social Purpose Team PEA Peer Review	
Date Immediate Team Peer Review Completed: 15/01/2026	Review Completed By: Amanda Jones
Stage 2: Sustainability and Social Purpose Team Management Review	
Date Management Review Completed: 16/02/26	Review Completed By: Gemma Norton
Step 3: Director of Sustainability & Social Purpose Sign-Off: Phil Burrows	
Director of Sustainability and Social Purpose Sign-Off Date: 27/02/2026	
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: February 2026	
Date that Notification Email Sent to Ofgem: February 2026