



nationalgrid gas distribution

Discretionary Reward Scheme 2013-15



Our stakeholder ambition

By 2017 we will have put stakeholders at the centre of what we do. We are trusted and respected by our stakeholders to listen, discuss and act.

- We will work together creating value adding collaborations and partnerships;
- Focus on what matters most to our stakeholders and our business;
- Safeguard our vulnerable and fuel poor customers, the environment and keep people safe from accidental Carbon Monoxide poisoning.

Looking after our vulnerable customers today and safeguarding the consumers of tomorrow

► Our strategy – building on the last two years

We have delivered a number of exciting initiatives as our strategy continues to evolve, based on our stakeholders' feedback and the external environment. We remain committed to:

- delivering an innovative approach to develop the best solutions to help our fuel poor customers;
- developing extensive, creative and value adding collaborations and partnerships, and
- helping to shape the fuel poor agenda.

Through our unique partnership with Affordable Warmth Solutions, Community Interest Company we continue to build on our five basic principles of: research, identify, deliver, learn and support, and our delivery plan has been developed on the back of this.



► Helping to shape the fuel poor agenda

As members of the Fuel Poverty Advisory Group (FPAG), we were in a unique position to put ourselves forward to **bring together and lead the first ever cross-industry off gas grid working group**.

One of the aims of this group is to **develop a national database of homes** not on the gas grid and to **identify affordable technological solutions and funding streams** to address fuel poverty. While undertaking the data mapping exercise to develop the database, rather than let procurement issues get in the way of progress **we stepped in to fund the £25,000** required for the development, licence and support costs.

The outcome of this work will support the innovative Gas Distribution Networks collaborative project, Ignite – a project to create dynamic solutions to provide access to cheaper alternative forms of energy for everybody.

The work of this group has also helped shape the recently published Fuel Poverty Strategy, and it has also **influenced the thinking of the reformed FPAG**, who has suggested **adopting this 'sub-group' model** as the blueprint for the way forward.

► Our stakeholders are part of the solution

Our stakeholders have told us that they want us to continue to innovate and find different ways of tackling fuel poverty. We also recognise that our stakeholders have a wealth of expertise and ideas in managing fuel poverty on the ground, and are part of the solution in addressing this national issue.

Recognising that we need to do more to harness

this expertise, we **launched an industry first Energy Efficiency Innovation Award Scheme**, inviting not-for-profit organisations to come forward with their ideas.

Working with National Energy Action (NEA), who helped judge the awards against a set of criteria, we have **awarded £408,000 to five organisations**. Three focus on **multiple occupancy buildings (MOBs)** and one on **park homes**, given the complexities involved in finding cost-effective solutions.

For MOBs the projects included: a combination of solar PV and pre-heating technology in low rise flats; aggregation and control of night storage heaters in tower blocks; and energy monitoring equipment, energy training and improved energy tariffs in residential blocks. The park home combines external wall insulation with new gas supply and heating, with **the final project providing heating for those identified by their GP as having health issues**, but not qualifying for traditional funding.

We will be publishing the results at NEA's fuel poverty conference in September, which we are co-sponsoring with Northern Powergrid. The results will also feed into the cross-industry off gas grid working group and into Ignite.

► Building on and sharing the experience, breaking new ground

We are also building on the work we have done in the past, looking to harness the learning and create new opportunities to move ideas forward.

In 2010 we installed our first ever community heating system in partnership with Gass Ltd and Black Country Housing in a block of 31 residential properties in Doveton House in Stourbridge.

In 2013, working in partnership with Madeley Charity and Housing 21, **we installed the world's most efficient small-scale electricity generator**, using fuel cells to convert natural gas into power and heat, into the Madeley Centre.

The learning from these two projects has culminated in us **breaking new ground** in Marx Court in Derbyshire. Another multi-occupancy building, housing 30 elderly residents.

Working in partnership with Rykneld Homes, North East Derbyshire Council and Gass Ltd, we have replaced old inefficient back boilers with an **efficient community heating scheme and, in parallel, installed two small-scale electricity generators** to provide electricity and water heating. As the generators also benefit from feed-in tariffs it is a significant win for residents, who are now seeing their combined **energy costs reduced by £230 per year**, and **annual CO₂ emissions reduced by 4.21 tonnes**.

We are now working with Northern Powergrid to share the learning and extend this technology to other areas, as well as informing the Ignite project.

► Best solutions for our customers and their homes

A key deliverable of Ignite is to match customers with the best technological solution for their home, and with this in mind, working with NEA, **we are carrying out a study with 17 elderly residents** in Yarwell, Peterborough. We have replaced their inefficient electric heating systems with **Air Source Heat Pumps (ASHPs)**.



ASHP project in Yarwell.

This **£128,000 project and supporting study is comparing the use of ASHPs with a gas heating project** in Doncaster, against key information such as energy running costs, customer experience, emissions and well-being etc.

The findings of the study, which we will report on in September, may support future policy decisions on the funding of off-gas grid properties through the fuel poor voucher scheme, which currently only applies to gas-based connections.

► Behind closed doors – effects of cold homes

Working with the **Children's Society and NEA** we are undertaking a **£50,000 qualitative research study** with 20 families on the highly deprived Belgrave Estate in Tamworth.

We have replaced inefficient electric storage heaters, with highly efficient gas heating to 259 homes on the estate. To ensure all homes could benefit, we **committed £385,000 funding for heating for 108 private owner occupiers**.

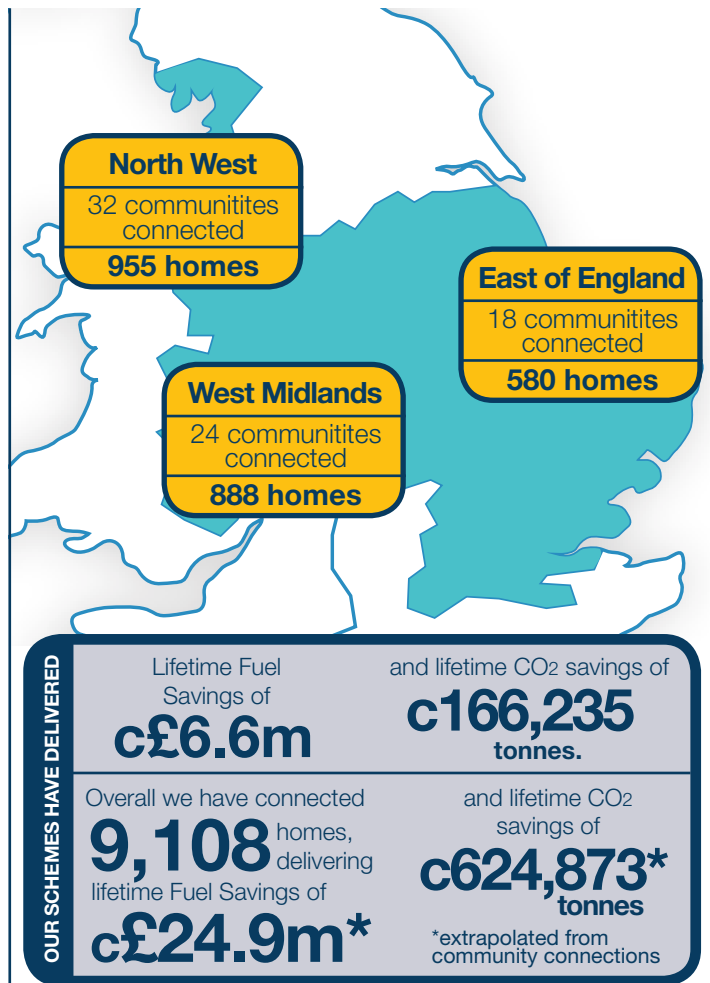
Before installing gas heating, The Children's Society contacted 20 families to understand:

- Children's experiences of living in fuel poor homes (including effects and coping tactics), and
- Children's perspectives on the effects of receiving a new heating system.

This research is due to complete in September 2015.

“ ... it's been like going back to a different place - many of the houses and the families are quite remarkably changed from our first visits. It's probably been the most uplifting research I've done! ”

*Dr Sorcha Mahony, Senior Researcher,
The Children's Society*



► Supporting our vulnerable customers

We are proud to have **established and lead the first cross-industry customer safeguarding working group**. Bringing together expertise from a wide range of industry players we have helped shape the review of the Priority Services Register (PSR), as well as becoming a part of the delivery arm of the outcome of this review.

As chair of one of the three sub-groups, we invited a representative from **Leicester City Council's First Contact scheme – a scheme that brings a range of preventative services to vulnerable people**. Some of the partners include: Age UK, Home Improvement Agencies, Fire, Police, NHS Trust, deaf and visually impaired, RVS and others – to share what they were doing.

Following this meeting we have moved quickly **to partner with this scheme, to widen the scope of their service to include Carbon Monoxide awareness, as well as referrals for the PSR**. We have established a **pilot to be able to refer into the scheme**, vulnerable customers that we identify as part of our everyday activities. The outcome of this pilot will feed back in to the Working Group so we can replicate more widely.

► What comes next?

We will continue to help shape policy and share and learn from best practice, publishing results from the cross-industry working groups and the outcomes of our Energy Efficiency Innovation Award Scheme.

Safeguarding future generations

► Our strategy - building on the last two years

Our strategy continues to evolve, based on our stakeholders' feedback and the external environment. We remain committed to:

- Helping facilitate a low carbon economy and helping shape the green agenda;
- Focusing on our own carbon footprint and;
- Developing creative and value adding collaborations and partnerships.

► Helping to facilitate a low carbon agenda

Getting connected

We continue to work with other organisations and raise awareness through multiple forums and working groups to: develop the right regulatory and commercial regimes; develop innovative solutions to increase connection opportunities; reduce costs and lead times; and ensure the end-to-end processes work for all market players.

Breaking new ground in above 7 bar self-lay

In November we successfully **completed the first Local Transmission System self-lay biomethane connection** project at Holkham. Working with Future Biogas, we have **created a model** that paves the way for others to self-lay at above 7 bar (high pressure). We are now working with Lloyds Registrars to **develop an accreditation scheme for Utility Infrastructure Providers to work above 7 bar**, giving customers greater choice and control over their projects and helping to facilitate competition.

Reducing costs and simplifying the process

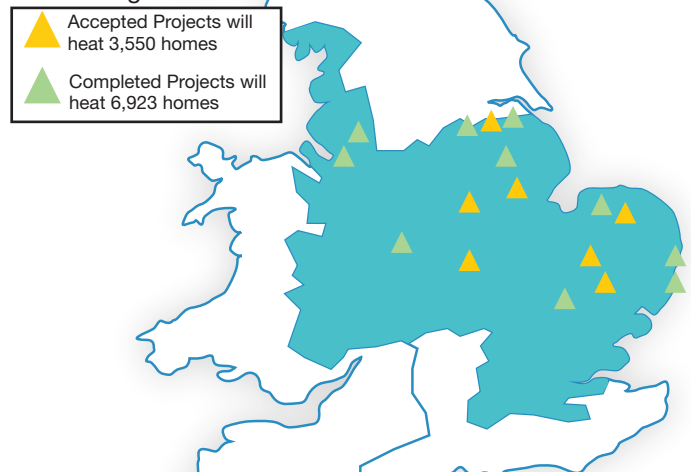
Traditionally when delivering biomethane connections, two separate kiosks have been used; one to house the customer's equipment and one to house the transporter's. Working with our customers, **we have combined the equipment, moving to a single kiosk model**. This has now become **best practice** and we now have four of our ten completed projects with single kiosks.

Applying the learning from our mains replacement programme

Learning from our mains replacement programme we are **trailing the use of high pressure plastic pipe** in place of traditional steel pipe at a project at Raynham Farm. Steel pipe is currently the only approved material for transportation of gas at pressure above 7 bar. This **change will bring both a reduction in cost by £80 per meter** compared with steel, and **enhance the speed of connection time**. This is because plastic pipe is produced in lengths of up to 150m and highly compatible with no-dig technologies (mentioned below), whereas steel pipeline can only be laid using open excavation, jointing and then reinstating.

End-to-end process review

We are committed to making it easy for our customers to do business with us. With the help of our customers we have now **carried out an end-to-end review** of the whole process, **making it quicker and easier to get connected** by simplifying the contractual process as well as shortening governance processes. We are piloting the new process which will see us getting a biomethane **connection offer to customers in 7-14 days**, compared with the three months our customers would have seen six months ago.



Our completed and accepted projects will heat c10,500 homes.

Supporting a smart world

The use of smart meters will help our customers save money, and help to protect the environment through better use of energy, and it's our role to ensure that our customers aren't negatively impacted by this supplier-led roll out.

We are working with the industry, including other networks and energy suppliers, **to help develop the future skills to maximise the benefits from smart**, as well as to ensure that we are prepared for the impact of up to **five million** meters a year being installed across our footprint. We will continue to work collaboratively to explore the **opportunities that smart meters bring in improved data**, and the benefits this will bring in developing a network for the future.

► Focusing on our own carbon footprint

Reducing environmental impact and disruption in our communities

As well as supporting a green agenda, our stakeholders tell us that we need to do more to reduce our own carbon footprint and reduce disruption when we are digging up the road. We have, therefore, set ourselves a challenging **ambition to reduce the number of excavations we carry out in the road by 50% by 2017**.

To meet this ambition, we have **established a dedicated project team** to really focus on **new ways of working**, ensuring new initiatives reach their **maximum potential** as **quickly** as possible, as well as improving the way we engage with our stakeholders.

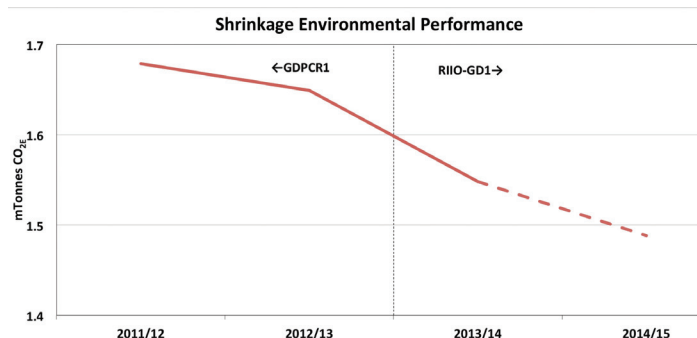
We are trialling **15 no-dig** and keyhole initiatives that will help us reduce disruption to our communities by reducing the amount of excavation we have to do. One initiative is **Core & Vac** – which drills a 600mm core from the road, allowing access to the pipes for repair and is then replaced. We can now **locate a leak, repair it and reinstate within one day**, as opposed to over a week.

We also trialled alongside SGN, CISBOT, a robot used to seal leaking joints. In Camden, **CISBOT** alone allowed us to **strengthen 62 joints** using a **single entry hole** where previously we would have dug 60 separate holes. We have also learned from others and are trialling a pipe coil trailer – which enables the right length of pipe to be cut from a 500mm coil, reducing waste.

Using a partnership approach, we are also trialling two other initiatives, PRISM and WASK. **PRISM**, which started life in the water industry, has been innovatively adapted providing a ground-breaking way of replacing retired gas main, which if successful could **reduce a job from one week to one day**. With **WASK** temporarily stopping the flow of gas in a live pipeline, this is **saving 2,075 tonnes of backfill and reinstatement** a year, and **207 ten-tonne grab wagon trips a year**.

Leakage and shrinkage

Leakage and shrinkage has the biggest single impact to our carbon footprint and it is therefore crucial that we look for innovative ways to help reduce this.



11/12 and 12/13 figures are normalised based on current methodology.

One such innovation is in relation to **MEG** (mono-ethylene-glycol). MEG is sprayed into the pipes and is absorbed by the gas to reduce the rate at which it leaks and this could **reduce leakage by 15%**. To significantly increase this, we have been working with The Technology Partnership in Cambridge to **trial an innovative vibrating diaphragm device** that produces a fine mist of MEG that helps **increase the rate that MEG can be absorbed** by the gas.

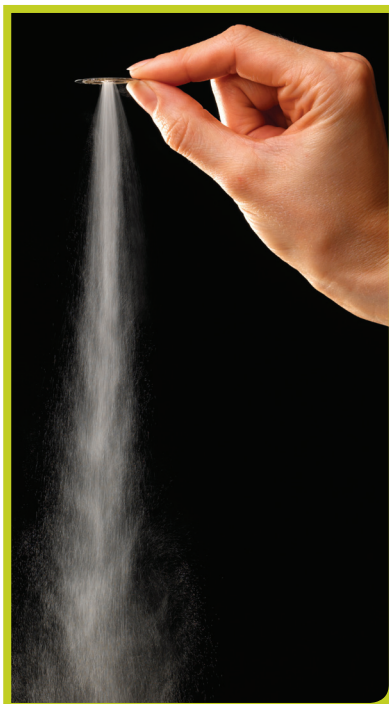


Image courtesy of The Technology Partnership plc.

We have also initiated an innovative project to look at the potential to **pressure manage the gas distribution medium pressure system**. Leakage from the medium pressure system currently **accounts for 9%** of our leakage estimation and it is thought that by introducing pressure management this could **be reduced by around 30%**. If these initiatives are successful we will be able to further reduce the amount of leakage, **reducing the impact on the environment**. Importantly by reducing leaks we will also **reduce the amount of roadworks** we carry out to make repairs, **reducing disruption to our communities** as well as **reducing spoil to landfill and use of virgin aggregate**.

Stopping theft of gas

Theft of gas not only has safety implications and financial implications for others, but when customers are not paying for the fuel they use there is no incentive for them to use energy wisely.



An illegal connection uncovered by our theft of gas team.

Our established theft of gas team is now leading the way with our industry peers in identifying and stopping instances of theft and recovering the costs of gas illegally taken.

During the last two years we have **investigated over 1,000 suspected incidents**. As a result of our investigations, we have **tackled over 300 confirmed instances** of theft. As a result of our work we have **recovered c£300,000** from theft offenders since March 2013, which is **passed back** to gas shippers to **help reduce the bills of all consumers**.

We **continue to provide expert opinion on amending the industry contract and code of practice** that will help prevent consumers from taking gas illegally. We also **continue to revise our own work methods, sharing best practice**, alerting engineers to the signs of theft, and recovering costs from fraudulent customers.

What comes next?

We will continue to stimulate competition in biomethane connections as well as innovating for new ways of doing things and look for new uses and markets for gas. We have **created a cross-industry Natural Gas Vehicle (NGV) network** to support policymakers in considering the UK's transport infrastructure road map to 2030 and will soon be **trialling a HGV project** with Birmingham City Council.

Safeguarding our customers from the silent killer

► Our strategy – building on the last two years

Our stakeholders tell us that they want us to continue our role in Carbon Monoxide (CO) awareness to help ensure that no person's life will be accidentally impacted by CO poisoning. We are doing this through:

- Delivering education, behaviour change and innovation;
- Developing extensive, creative and value adding collaborations and partnerships, and;
- Helping to shape the CO agenda.

We have implemented new systems to measure the effectiveness of our safety campaigns so that we are able to assess the initiatives that are providing best results for our investment, enabling us to focus on initiatives that deliver best value for our customers.

We continue to educate our employees on the dangers of carbon monoxide and the symptoms to look out for, to keep them safe, but also so they can become ambassadors for our customers.

Educating our customers to keep them safe

Updated our channels & customer literature – during 2013 we launched a suite of **online safety videos**, achieving **16,000 hits** as well as promoting safety advice through social media. Our **Facebook CO campaign** gained nearly **30,000 Facebook users** and encouraged them to 'like' and read tips on CO safety. It also offered an opportunity to **win a free CO alarm, with 100 given out** in total. We **refreshed our CO awareness literature** and, to date, have **distributed c19,100 copies** through various initiatives across our networks, with customer feedback **rating its usefulness an average of 8.4/10**.

Educating our customers during our everyday operations – we are taking the opportunity to **educate our customers about CO through our everyday operations**; during gas emergency visits, when we are carrying out our mains replacement work and when we are putting in a new gas connection for the first time.

Surveyor giving out CO advice and alarm to our customers.



Wherever possible we look to get feedback from our customers using the industry-agreed survey. This measures outputs using a simple 1-10 scale to gauge outputs such as knowledge increase following our engagement. It also seeks to understand if behaviour change is likely as a result of that knowledge. To date, we have carried out:

- **942 awareness surveys** following a **gas emergency**, with our customers' knowledge increasing from 7.3 to **9.06**;
- **406 awareness surveys** as we carry out our **mains replacement work**, demonstrating an already high knowledge of 8.00, increasing to **8.64**;
- **240 awareness surveys** carried out at the time a **new gas connection** is installed, with our customers' knowledge increasing from 7.45 to **8.37**.

Overall we have **surveyed 5,521 people** and **increased knowledge** from 6.6 to **8.5**. **96%** of our customers **said they were likely to take action as a result of our discussion** such as **getting appliances serviced** or **talking to family and friends about CO**.

► Supporting vulnerable groups in our local communities

As well as through our core customer touch points we are also committed to working locally in our communities, and particularly in hot spot areas. We have undertaken a number of initiatives aimed at key 'at risk' groups:

Shopping Centre events – using our local community network contacts we have carried out **CO awareness events at three of the largest UK shopping centres** in Manchester, Derby and London. So far we have **reached** in excess of **1,000 individuals**, completed **over 600 surveys**, **distributed c600 alarms** to 'at risk' individuals and **increased awareness** from 6.7 to **8**.

Caravan & Camping Show – with an ongoing concern around CO dangers when caravanning or camping, we attended the Newark caravan & camping show, with a footfall of c12,000 people. Having a captive audience, we **provided education to several thousand attendees**, with **475 'at risk' customers receiving an alarm**. Our **500 completed CO surveys** showed an **increase in awareness** from 6.7 to **9.1**.

Smethwick Community Initiative – working with Smethwick Community Centre we are providing a **new route** to reaching a disadvantaged community group. We are providing CO education to vulnerable customers who use the community centre facilities and we have **provided 1,000 CO alarms** to the Community Centre **to be given free of charge with awareness advice** to 'at risk' customers. The use of this partnership is enabling us to reach a key group which we would not ordinarily have had access to.

► Safeguarding future generations

Comic book campaign – we continue to work alongside our GDN colleagues on the creation of initiatives such as the Comic Book. Building awareness at an early age is the first step in delivering behaviour change. We have worked with our employee ambassadors to gain **access to schools** to talk about the dangers of CO and have **distributed 1,400 copies of the comic book** as well as using electronic versions, **reaching a total of 31 schools** across our footprint.

Cub Scout Badge – we have continued with our highly successful cub scout badge raising awareness among school-age-children across the UK, instilling safe behaviours so that these will become the norm for future generations and their families. In the last two years **our home safety resource packs** have helped young members learn how to stay safe at home by spotting the dangers of CO and knowing what to do in a gas emergency. This resulted in **40,000 Cub Scout Home Safety badges being awarded**.

Freshers fairs – again getting into an ‘at risk’ group we have **attended nine of the largest universities** across our network. Freshers’ fairs provide a great opportunity to meet and **educate students, particularly those living away from home for the first time**, about the dangers of CO. We supplied CO alarms to students living in rented accommodation where there was not currently an alarm installed and notified them of their landlord’s responsibility to carry out annual gas safety checks.

With **164 alarms issued** and awareness surveys completed it was encouraging to see **knowledge increase from 6.08 to 8.02**.



► Effective partnership working

We were pleased to **welcome Gas Safe Register onto our Stakeholder Advisory Panel** in 2013 and we have been working with them and the other networks on initiatives such as the gas map tool. We were delighted to be invited to **speak at Gas Safe’s annual CO Gas Safety Week launch at the House of Commons in September**.

We have also developed a number of other partnerships, for example:

Fire Service partnership – we partnered with the CFOA Bluewatch Ltd, initially working with Staffordshire Fire & Rescue to **provide a one-stop-shop to vulnerable people** as part of their fire home safety visit. So that customers had one visit from a trusted adviser we **provided training to the Fire Service** to widen the service they provide. **3,000 alarms were provided** and **1,520 awareness surveys** were undertaken, showing an **increase in knowledge from 4.99 to 8.04**. Following the success of this partnership we are **widening the scope** to include an additional **five CO hot spot** areas across our footprint and **provided a further 5,000 CO alarms** for ‘at risk’ customers.

► Delivering collaborative and innovative approaches

Intelligent CO project – working with the other networks we are **trailing an innovative intelligent CO alarm**. Our relationship with the Fire Service enabled us to partner with Lancaster University to **install 200 alarms** into student rented accommodation. The remaining **100 will be installed by Hinckley and Bosworth Council to customers** who use a personal alarm service, with a particular focus on occupants who are **deaf or hard of hearing**.

Helping to shape policy – through our membership of the All Party Parliamentary CO Group and other forums, and working alongside the other networks and industry players, we are able to pool our resources and talk as ‘one voice’ helping to lobby for policy change, such as the **recent change in legislation for a CO monitor to be installed in all landlords’ accommodation**.

Investing wisely – Understanding the unit cost of our initiatives based on literature, alarms, publicity, merchandise and resources, together with the number of customers each scheme reaches and the increase in knowledge and potential behaviour change, **we can make informed decisions about the projects we start, stop and do more of**.

WE’VE DELIVERED

c406,500

customers reached, **£363,000**

invested, awareness increased from **6.6** to **8.5**, **6,443 CO alarms** provided, **96%** said they will take further action

► What comes next?

We plan to continue our focus on education, awareness, innovation and lobbying, as well as looking at whether customers actually take the actions that they committed to in our surveys.

We will continue our collaborative approach and expand our partnerships, developing programmes that link fuel poverty, vulnerability and CO, gaining access to surgeries, hospitals, schools and other key groups. to provide a holistic approach to keeping our customers safe.



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National Grid Gas Distribution, Brick Kiln Street, Hinckley, Leicester, LE10 0NA

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