Gas Industry Company of the Year 2010

Scotia Gas Networks

Quality of Service

Discretionary Reward Scheme 2010/11

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Introduction

Award winners – investing and innovating for future success

We've come a long way since our formation, becoming sector-leading in many areas. Our achievements were recognised when we were named Company of the Year at the 2010 Gas Industry Awards. Safety is at the heart of everything we do and this was recognised with the RoSPA Gold Medal and the prestigious Overall Safety Achievement Award at the Gas Industry Safety Group (GISG) Decade of Excellence Awards.

At the 2011 Gas Industry Awards we picked up a further three coveted awards for Chief Executive of the Year, Manager of the Year, and Young Person's Achievement.

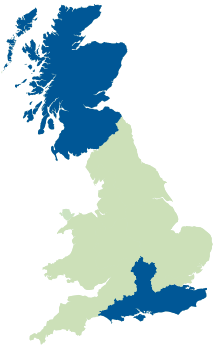
Looking after our world

We have always believed in giving something back to the communities in which we operate. With this in mind we have introduced our Community Action Programme offering employees the chance to take time to carry out community or voluntary work during working hours.

Working in partnership with conservation charities, schools, and a wide range of community groups, the number and types of projects we have helped are varied.

Examples of these include, in our Southern network, creating an outdoor classroom for an infant school in Tenderden, Kent and painting the communal rooms of a respite centre in Horley, Surrey for patients with multiple sclerosis. In Glasgow, the makeover of a centre for music charity Polyphony, which works with people with mental health disabilities, also hit the right note. It looked fantastic in time for a visit by Health Minister Nicola Sturgeon MSP.

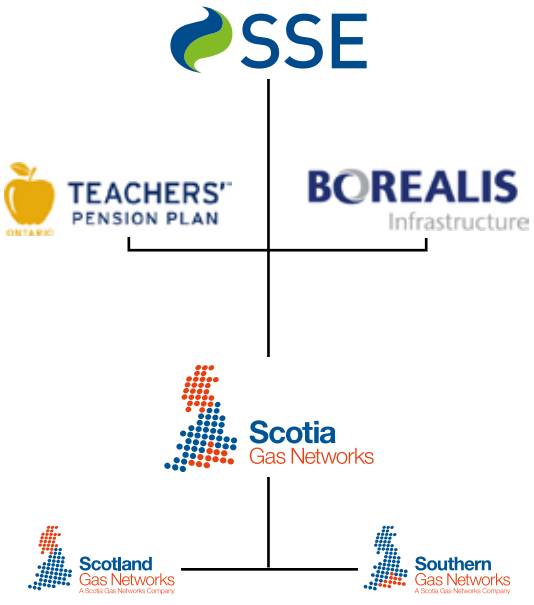
Scotia Gas Networks is the second largest gas distribution company in the UK serving 5.7 million customers in Scotland and the south and south east of England.



Scotland Gas Networks distributes gas to 1.8 million residential and business customers reaching 75% of Scottish households including remote areas through the Scottish Independent Undertakings (SIUs) at Thurso, Wick, Stornoway, Oban and Campeltown.

In the south and south east of England, Southern Gas Networks serves 3.9 million customers in an area stretching from Milton Keynes to Dover in the east and to Lyme Regis in the west, including the London boroughs south of the River Thames.

Structure



Formed in June 2005, Scotia Gas Networks (SGN) is owned by a consortium including SSE (50%) and two Canadian pension funds, Ontario Teachers' (25%) and Borealis Infrastructure (25%).

Environmental Impact

Green, green gas for homes

Didcot Sewage Works in Oxfordshire is home to the UK's first biomethane plant producing 'green' gas from waste for injection into the gas grid. Leading this project in partnership with Thames Water and Centrica, the recent Water Industry Achievement Award (WIAA) for Partnership Initiative of the Year underlines the significant steps foward this groundbreaking project has made. Commissioned in October 2010, the biogas that was previously flared to atmosphere is now converted to biomethane and supplies some 200 residents in Didcot. In consultation with Ofgem and the HSE, several technical challenges were overcome in completing the work and the project is now providing a real opportunity to identify potential cost reductions that will help improve the viability of future schemes.

In talking to our stakeholders at events around the country, we have discovered that while they are generally well informed regarding the need to 'green' our energy supplies, they find the concept of this ultimate recycling quite surprising! Nevertheless, they are very supportive of our efforts.

Gaining experience

In partnership with SSE, we have built an anaerobic digester site at Barkip in Ayrshire which will take 75,000 tonnes of various 'waste streams' and generate electricity for some 4,000 homes. We are using the learning from this project to better understand customer requirements and to explore whether anaerobic digester plants could be used to provide energy for fuel poor communities that are off the gas grid.

"We at Barfoots Energy recognise Scotia Gas Networks' ambition to lead the development of innovative technology to enable like-minded forward thinking companies such as ourselves to contribute to the UK's climate change objectives by greening the gas grid through injection of biomethane. We are looking forward to developing our current and future biogas assets with SGN and have been impressed by their 'can do' attitude , professionalism and flexibility."

The Energy and Climate Change Secretary Chris Huhne, said: "This is an historic day for the companies involved, for energy waste technologies, and for progress to increase the amount of renewable energy in the UK."

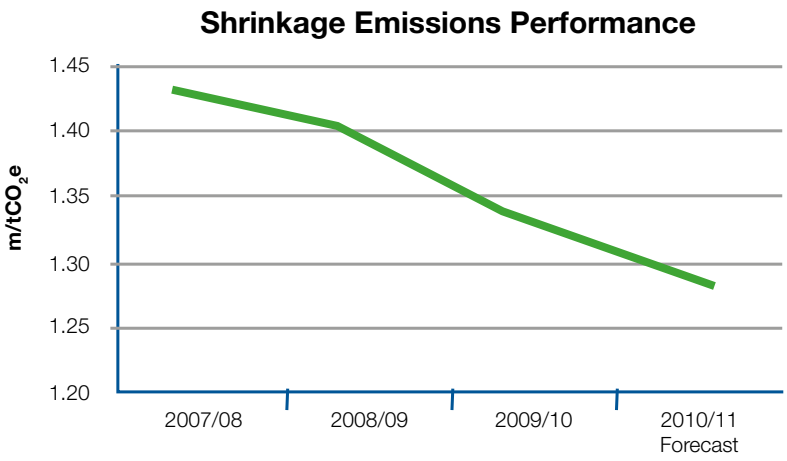
We have stimulated a further 63 enquiries from potential biogas producers and the learning from both of these projects will be increasingly important in assessing these opportunities. Bringing these new projects to fruition could save 2.8 million tonnes of carbon per annum. Six feasibility studies have been commissioned and we are actively pursuing investment in a further six projects.

Our continued commitment to reducing shrinkage

Ground source heat - reducing shrinkage!

Gas often needs to be transported at high pressure and when we reduce the pressure significantly, the gas loses temperature rapidly and can result in our pressure reduction equipment freezing. To prevent this we use gas fired pre-heaters to warm the gas but this practice both produces CO_2 and contributes to our shrinkage figures. From feasibility studies we have concluded that pre-heating using ground source heat pumps can significantly reduce our carbon emissions as well as the amount of gas lost to shrinkage.

We are now constructing a prototype installation to put theory into practice. With over 300 potential sites in our networks alone where this technology could be deployed and with 40 where upgrades to our heating systems need to be considered in the next few years, this technology could have a significant impact on shrinkage and carbon emissions.



The graph above shows the cumulative effect of our shrinkage initiatives and our achievement in reducing system shrinkage year on year. Coupled with potential savings of up to 2.8 million tonnes of carbon from our biogas initiatives, we could be in a carbon neutral position within the next few years.

Shrinkage Gains from the Low Pressure Network

Around 95% of our shrinkage relates to leakage from our low pressure distribution networks. The main component of natural gas is methane and when released to atmosphere it becomes an even more harmful greenhouse gas than carbon dioxide (CO_2). This is why we remain committed to continually reducing our level of shrinkage and emissions to air.

During the past year we have focused, once again, on our own impact on the environment and where we can drive excellence – even small gains are important! During complex operations, when it is often necessary to temporarily increase the pressure in the network, it's important the pressure is returned to normal as soon as possible. We have introduced a new Management Procedure to enable us to improve our tracking of temporary increases in the operating pressures on our lower pressure distribution networks. This management procedure ensures that there is a robust link and auditable trail between the raising of the network pressure and the Safe Control of Operations process.

PMAC pressure management initiative

Our distribution network pressure management system, PMAC, is central to our ability to run modern pressure management techniques, such as Profile Control, as efficiently as possible. For the first time we have linked the traditional standalone computers to a central point using a network. This simple step allows us to continuously monitor the operating pressures of our networks and whilst maintaining security of supply, ensures they are running at the lowest possible pressure.

This constant monitoring of the whole network allows us to respond to changes of pressure quicker than ever before. This means that any increased pressure (which will contribute to increasing shrinkage) can be dealt with faster and the network in question will not be running at a higher pressure for any longer than is necessary, ensuring we minimise our shrinkage impact.

We have also reviewed processes associated with the seasonal adjustment of governors. Using localised weather station information, we take a 'just in time' approach to optimising the performance of the profiling system to minimise the risk of governors operating at too high a pressure.

Environmental Impact

Supplementary information

Learning about green solutions

"I told my children about it and at first they wrinkled their noses but then they thought it was a great idea! It's made from something we all produce and it's renewable. We're struggling to find sources of energy so we should use whatever we can. I'm definitely a supporter of this."

Kathryn Rushton, Didcot resident.

Taking a lead from this feedback, we invited one of the UK's best known childrens TV programmes to the site. CITV's 'Mission Green Santa' has been highlighting global warming and encouraging children to make environmental pledges. It has also been looking at renewable energy sources and we were delighted when their intrepid reporter 'Rosie Cheeks' headed to Didcot Sewage Works to take a look at our project. Promoting understanding of the process and the important contribution it makes to protecting our environment is a key message for this young audience to hear.

Ground source heat pumps (GSHP)

Ground source heat pumps (GSHP) use renewable solar energy stored in the soil or ground water. In our case the intention is to extract the energy from bore holes sunk in the ground. The system will still need electricity to operate but is very efficient and will produce up to five times as much heat for every unit of electrical energy used.

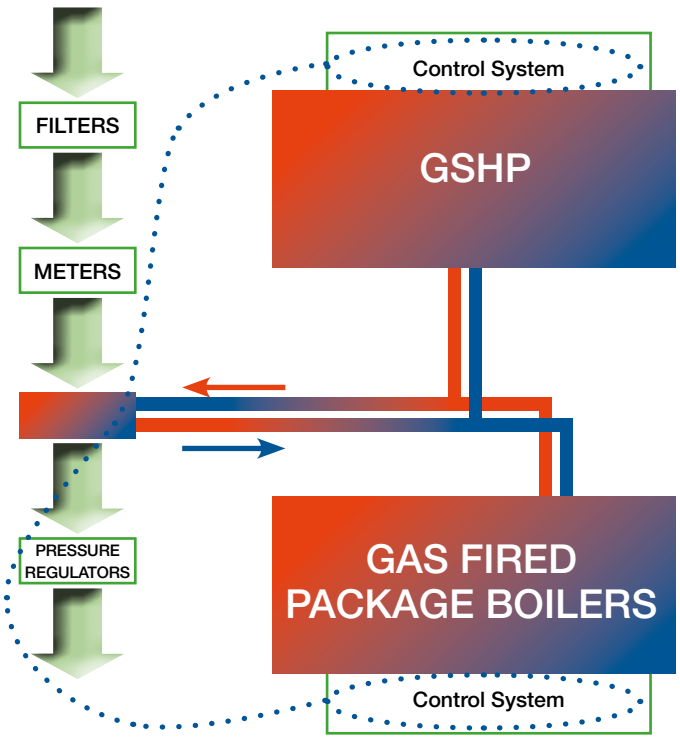
In our Pressure Reduction Stations, gas enters at anything between 19 – 65 bar and typically exits at around 7 bar. An accepted rule of thumb is that for every 1 bar reduction in pressure the temperature of the gas will drop by about 0.5 degrees centigrade. This could result in the temperature of the gas dropping by as much as 29˚C! This is why we need a reliable and environmentally friendly pre-heat system to keep the gas at an acceptable temperature.

During our trial the prototype will be installed in tandem with the existing pre-heating systems to ensure our operations are not compromised.

We believe this proposal meets many sustainable development needs as it:

- Helps the transition to a low carbon economy
- Promotes energy savings
- Helps ensure a safe and reliable gas supply
- Supports overall environmental improvements

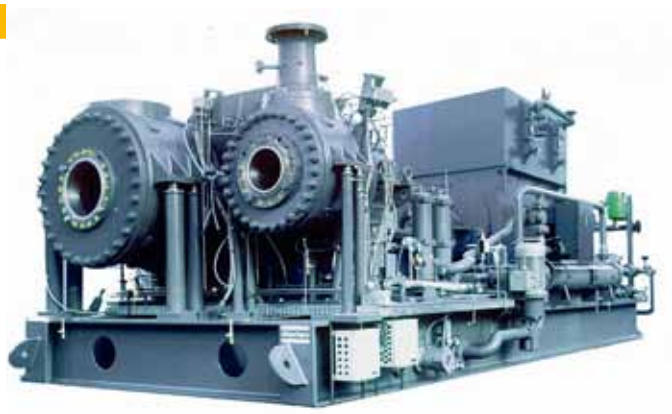
Inlet gas temperature typically 4˚C in winter can rise to 10˚C in summer

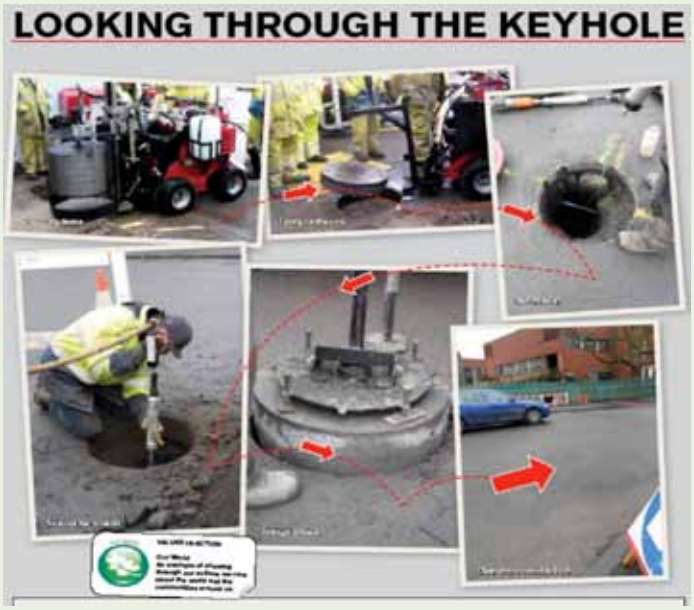


Distribution Network
Outlet gas temperature controlled at 0˚C

Turbo project powers ahead

At an existing pressure reduction site next to our St Mary Cray Office, we are carrying out preparatory works for the installation of a new 4.5MW turbo expander. While reducing the gas pressure the plant will, in the process, generate enough electrical power for around 5,000 homes. We will also be installing a combined heat and power plant that will provide pre heat for the turbo expander and enough electricity for a further 2,000 homes. The plant will also be able to supply electricity for our office, making the building carbon neutral when the plant is fully operational.





It's Magic!

Picking up on an idea from National Grid's DRS submission last year and keen to improve on our environmental strategy, we have undertaken our own programme to develop the use of Small Hole Working. The process involves cutting a 24" hole in the road surface, extracting the surface 'core' and excavating the ground using an 'air pick' and a vacuum excavator. These techniques allow us to undertake the repair without getting into the hole. The magic bit comes when we put the original ground back and glue the original road surface or 'core' back into place! Glasgow City Council and Royal Borough of Kingston have given us very positive feedback on the use of this technology and we now look forward to deploying it more widely.

It is through adopting innovative techniques such as this that we have reduced the percentage of excavated ground going to landfill from 65% to less than 9% and means we have avoided more than 366,000 tonnes of excavated ground going to a landfill site.

505

5O5 is our strategy to achieve five key environmental objectives over five years. It is focused on carbon reduction and maximising the utilisation of resources. Some of our achievements delivered during the first three years include:

- Reduced natural gas emissions of over 7.4%
- Reduced carbon emissions from our commercial and company car fleet of 24% and 2.5% respectively
- Reduced office and depot waste going to landfill by 36%
- Reduced road spoil sent to landfill from 65% to 8.2%
- Reduced paper usage by 23.5%
- Reduced water and gas consumption in offices and depots by 35% and 49% respectively
- Increased the use of recycled aggregate (in place of virgin aggregate) from 25% to over 76%
- Increased use of video conferencing facilities (to avoid business travel) by in excess of 59%
- Switched to a green renewables electricity tariff for most energy consumed, saving around 9,000 tonnes CO_2e from our carbon footprint

Reduced our overall carbon footprint from 505 initiatives by approximately 265,000 tCO_2e

Fuel Poverty

Assisted Connections

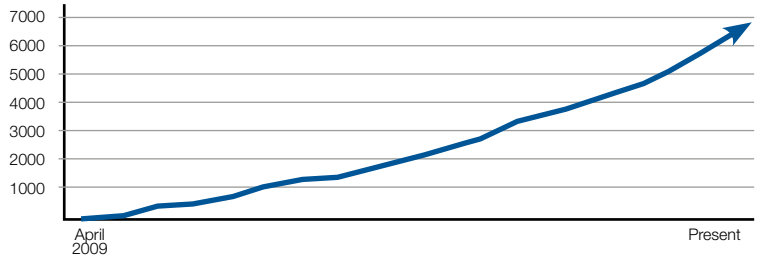
Making a difference

We are on track to exceed our target of completing 10,000 fuel poor connections by 2013. Through our inclusive approach to partnership working we have to date completed:

- **3,830 connections to individual fuel poor properties**
- **3,048 connections to social housing providers**
- **13km of infrastructure associated with fuel poor connections**

Our approach is particularly appreciated in the public sector where our Assisted Connections scheme is seen as key to taking projects forward and balancing budgets.

Fuel Poverty – Cumulative connections



Tackling fuel poverty among the most vulnerable

Among other initiatives, we continue to work with Aberdeen City Council on its Affordable Warmth project. As well as providing a gas service through our Assisted Connections scheme, we are giving additional financial support from our system extension fund. The case study below demonstrates the real difference being made with our help.

Case Study:

"We have been dealing with a lady, aged 57, for several years. When the Officer first visited she was more or less living in squalor with a leaking roof. She was also in debt with Council Tax but this was resolved as she suffers from mental health problems. The roof was repaired through a private sector housing grant and we assisted with various small repairs around her flat, including a major property clearance. The only heating she had was from a few halogen heaters.

"She has a limited work history due to the fact that she always suffered from mental health issues, preventing her to commit to a permanent job. As a result there was no real avenue to obtain funding and it looked like she would have to wait until she was 60 to qualify for the Scottish Government central heating scheme.

"However, her benefits meant that she qualified for the gas supply to be installed through the Assisted Connections scheme and with the help of SGNs funding, we are able to meet the contractor's cost of £3,240".

1,600 connections to priority group customers in the private sector

Priority group customers are 70 or over, or in receipt of particular benefits. We are able to provide them with a gas service through our Assisted Connections scheme and indirect support for in-house measures through our fuel switching scheme.

Fuel switching under CERT (Carbon Emissions Reduction Target) refers to the replacement of an existing non-gas heating system with a more energy efficient gas system which generates an allowance based on the associated carbon savings. With budget cuts to the government's Warmfront programme and the introduction of a new super priority group, our scheme will become increasingly important in supporting the provision of in-house measures in the private sector.

Fuel switching scheme

Carbon saved – 300,869 tCO_2

£1.9m in grants returned to customers

£1.4m contribution to our system extension fund

"Thank you for the financial support you gave to the Aberdeen Affordable Warmth project in 2010/11, which will make a significant difference to their (householders) circumstances. This project helps fuel poor people and families in low-income households where existing 'mainstream' grants are insufficient or non-existent."

Kevin Christie, Aberdeen City Council

Park home sites – our challenge

Acknowledged as being among the most hard to treat homes, we have contacted over 100 park home sites in our Southern area to discuss connecting them to our gas network. While there has been considerable interest, the key issues to taking projects forward are the:

- **Often difficult relationship between park owners and residents**
- **Binding nature of existing energy supply contracts**
- **Difficulty of securing funding for in-house measures**

The latter point is often the most critical. Typically, park home owners do not benefit from local or national grant aid schemes, despite the fact they are the most likely to be living in fuel poverty. The case study below for Easthampton illustrates these difficulties and another from Double Dykes the need for action.

Convinced our Assisted Connections scheme and system extension funding can make a difference, we are engaged with a number of partners to seek out and progress the most promising projects.

90% of park homeowners use LPG and running costs can be twice as much as mains gas.

Easthampton Traveller site

Working closely with Bracknell Forest Council and Creative Energy Networks (CEN), we are close to agreeing a demonstration project on a traveller site at Easthampton. Through our partners we have provided energy monitors to the residents and carried out energy assessments of their homes. Our Assisted Connections scheme will cover the infrastructure costs of mains and services but the economic situation of the residents means they can't afford the conversion or replacement costs for their existing heating systems, or the additional funding for the installation of insulation measures. The local authority run a 'pay as you save scheme' and we have put forward proposals for additional funding to the scheme, enabling the local authority to offer appropriate support to the residents for the provision of in-house measures. We will also look to provide funding through our fuel switching scheme and expect CEN to bring additional partner support for the replacement of existing oil boilers.

Working with National Energy Action (NEA)

Working in partnership with NEA, long campaigners in raising awareness of the plight of park home owners and recognised experts in delivering energy saving demonstration projects, we expect to meet our challenge of delivering successful network extension schemes that will make a real difference to park home owners.

Feedback indicated most success lay in developing sites in local authority ownership, where home improvements were already being considered and where residents themselves were keen for change. Using information we provided, together with site visits and discussions with local authorities, NEA identified four sites (284 residents) for further work and has carried out in depth surveys and data modelling to confirm the eligibility of tenants under our Assisted Connections scheme and for in-house measures from CERT and other government schemes.

Using this information NEA has identified a site at Attwood Close, owned by Basingstoke Council, as having the most potential for progression. The next stage is to engage directly with gas suppliers and product manufacturers to ascertain the level of support for in-house measures. A further factor in our favour is that refurbishment of the water supply to the site is also required and that work could be combined with gas infrastructure work, helping to make the whole project more affordable.

Double Dykes – Perth

Perth and Kinross Council provided permanent accommodation on an existing traveller site at Double Dykes near Perth. The energy costs associated with maintaining these 20 park homes have escalated and independent surveys conclude that although this is not an area of deprivation, the majority of the residents are in fuel poverty and a significant number may be considered to be in extreme fuel poverty. One specific example reveals the extent of the problem:

"I am the only person who lives in the chalet and I am not in most of the day. I use the TV, lights, laptop, heating, hot water/boiler but am not using the cooker or fridge, as they are not plugged in. No washing machine, no tumble dryer, half my money goes on paying electricity."

Source: Energy Saving Scotland Advice Centre

Fuel Poverty

Supplementary information

Ferguson Park, Blairgowrie

continuing to make a difference

"Faced with the harshest winter in years we have never been cosier"

This was just one comment on the ongoing work at Ferguson Park Blairgowrie. Working with Perth and Kinross Council we have already extended the gas network to 286 homes in an area where more than 50% of the homes were considered to be within the top 20% of the most deprived communities in Scotland. In time for last winter the council installed new central heating systems and improved in-house measures for its tenants, while 27 private owners have also taken advantage of our Assissted Connections allowance and been able to get a new gas connection installed at no cost to themselves.

Anecdotal evidence suggested some residents were not making best use of their heating systems. Through our partnering arrangements with SCARF (who manage the Energy Saving Scotland Advice Centre for that area) we have funded and encouraged continued engagement with the community to provide residents with general advice on household energy efficiency, together with access to fact sheets, tailored advice and home visits where necessary to ensure the correct and efficient use of the systems. Results so far have been encouraging with savings for some house types being in the region of 40%.

First line training

Recognising our first call operatives are engaging with the public on a daily basis allowed us to build on an existing Energy Saving Scotland Advice Centre (ESSAC) scheme designed to raise awareness of the causes and symptoms of fuel poverty. Staff at our Dunfermeline and Dundee depots were given the awareness briefing and details on how to direct vulnerable customers to the ESSAC. This will ensure appropriate advice on energy efficiency, benefit entitlement and other energy related matters can be provided to those customers most at risk of fuel poverty.

Feedback from staff indicates they are keen to be involved and we are now planning to roll out the awareness sessions across our other Scottish depots. It has encouraged us to consider how a similar scheme could be promoted in our Southern area. Scottish staff involved have also pointed out that we should be including the advice centre contact number in the customer safety leaflets that we leave and this feedback is being actioned.

As well as promoting our Assisted Connections scheme at the Energy Action Scotland (EAS) Annual Conference, we have also engaged with EAS in hosting a seminar for housing associations. They have also developed for us an expert tool that we can use to make a robust desktop assessment of fuel poverty under the 10% fuel poor rule.

The assessment tool has now been shared with the Energy Saving Trust (EST) and we expect to see it being used by the Energy Saving Scotland Advice Centres. We hope to partner with them in ensuring access to our Assisted Connections scheme for one-off enquiries.

To help us understand the market dynamics associated with supplies to off-grid areas, we commissioned Marvern Research to carry out a study into the value consumers placed on not having access to a mains gas supply. The research concluded that depending upon house size, consumers placed a value of between £8,000 and £12,000 on having access to mains gas in comparison to an alternative like LPG.

District heating scheme

Edinburgh City Council is taking an innovative approach to replacing the existing all electric storage heaters at a block of flats in the city. Fuelled by a centralised gas fired boiler plant, the 212 apartments in the block will enjoy heat and hot water from a district heating scheme, which in combination with energy efficiency improvements to the fabric of the building, will see running costs reduce by 29%. Overall the scheme will see a 27 point average improvement in energy ratings for the apartments and cut CO_2 emissions almost in half, saving 656 tCO_2. Although the apartment block is in a top 20% area of multiple deprivation, under the existing rules of our Assisted Connections scheme we can't officially make a fuel poor contribution. However using a similar financial model to that which calculates contributions to individual properties, we have arrived at an allowable investment figure that will cover the £15,000 construction cost of the new gas infrastructure for the boiler plant.

This award will be made from our system extension fund and we look forward to discussing with our regulator how the existing scheme rules might be changed to allow us to make further supporting contributions to schemes such as this.

Similar projects are being looked at in Greenwich, Dundee and Southampton. We will be looking to provide similar support for those projects as we have in Edinburgh.

Warmzone CIC

We had identified some 350 locations across our Southern network that are not within the gas supply area. With no knowledge of their potential for fuel poor connections we engaged Warmzone CIC (a subsidiary of National Energy Action) to assess the locations against government statistics. Only one location was found to be within the top 20% of the most deprived areas in England and on further investigation there was no opportunity to progress a fuel poor project.

We have information on meter points and postcodes that in combination with other systems should enable us to identify areas where gas penetration is low and potential connection opportunities. With around 5% of the top 20% most deprived areas in England within our network and perhaps 12% of the fuel poor, this proactive approach will ensure that we develop systems and methods that will simplify data searches and ensure potential projects are not missed.

Focus on Southern

National Energy Action (NEA) figures for 2010 suggest almost 500,000 homes in the south east of England are considered to be in fuel poverty yet the majority of our fuel poor connections are carried out in our Scotland network.

While we recognise the different drivers that impact the availability of funding (largely driven by legislation on meeting home improvement standards) it is also clear from our engagement with stakeholder groups, including the NEA, regional fuel poverty forums and participation with groups such as South East Carbon Action Network, that we need to continue to engage their members to ensure our key messages are being promoted and understood.

We are in discussions to install infrastructure to approximately 175 homes in a fuel poor area in East Sussex and where funding for the in-house measures should be available. This is in addition to 17 other enquiries received this year that could lead to several hundred extra fuel poor connections being completed.

Safety Initiatives

Carbon Monoxide (CO) safety – frustrated by public apathy

We cannot eradicate CO fatalities on our own. We have actively engaged with the Gas Safety Trust, the medical professions, and with CO alarm manufacturers and distributors. However, despite there having been 15 CO fatalities in our networks over the last few years and the considerable effort we have made to emphasise the dangers, effective engagement with the public on this serious matter has been exceptionally difficult.

What we know

Our engineers have reported more than 100 incidents where their Personal Atmosphere Monitor (PAM) alarm sounded on arrival at a property.

In reviewing these instances, only 39 customers took immediate action to have their appliances serviced or replaced.

Research in central Scotland found 40% of all emergency calls were due to CO alarms. Most, however, were found to be 'end of life alarm conditions'. This leads to a risk of mistrust and scepticism over the benefits of an alarm.

Despite many fatalities attributed to CO from mains distributed gas in the last few years, behavioural issues are clearly affecting the uptake of alarms, influenced by the:

- Extremely low likelihood of people being affected by a fatality
- Inconsistency of the social landlords' approach to CO alarms and whilst all are strongly committed to appliance servicing, only some landlords fit CO alarms leaving customers uncertain of their value.

Although there is awareness that low level CO exposure (below the threshold at which alarms sound) affects people of all ages and can cause ongoing health problems, we have found there is very little information on these long term effects, or the impact on the health services. Therefore, we have initiated discussions with medical professionals to better understand this issue, as we believe that many thousands of people may suffer long-term damage and that the knowledge gained would also help to develop a strategy to address the current apathy. We feel very strongly that simply continuing to issue alarms will not address the problem.

Our actions

We have:

- Issued 5,000 free CO alarms to vulnerable groups
- Purchased more than 4,500 Personal Atmosphere Monitoring alarms (PAMs)
- Carried out 500,000 safety visits by operatives wearing these PAMs
- Issued more than one million safety leaflets
- Offered CO alarms for sale at cost price
- Carried out a survey of low usage customers who are particularly at risk – however, to date there has been no uptake on our offer of support

Overall, our conclusion is that the risk of a fatality or other health issues from CO does not resonate with customers. We strongly believe that innovative methods are needed to raise public awareness to the harmful effects of CO.

We are therefore assessing an approach using one of our most visible assets – our vans – that should help to ensure our message reaches the widest possible audience.

Managing emergency calls

We have commissioned two separate reports by independent consultants which examined aspects of the National Gas Emergency Call Handling system on behalf of all eight distribution networks.

We are now actively progressing proposals to enhance overall public safety by changing how calls to the national 0800 111 999 gas emergency number are handled. An initial trial was carried out in winter 2010/11 as a forerunner to our taking ownership of and dealing directly with emergency calls within our footprint, rather than through National Grid.

Our objective is to be the leading utility company on safety

Safety remains at the heart of everything we do and we take seriously our responsibilities to our employees, contractors and members of the public. Through taking responsibility for our own safety and that of others we look to take a proactive and innovative approach towards safety improvements. Our achievements in embedding a robust safety culture in our organisation and consistently delivering significant safety improvements were recently recognised by the Gas Industry Safety Group. At its 'Decade of Excellence' Awards in 2010, we were shortlisted in four award categories and presented with the prestigious Overall Safety Achievement Award.

The judges made the following comments on our submission:

"Active engagement at all levels of the business has kept safety at the forefront and has created the right environment to collectively move towards their target of zero accidents and injuries.

This has been achieved through strong leadership and the development of a clear identity and culture, that is now enshrined in the company's DNA."

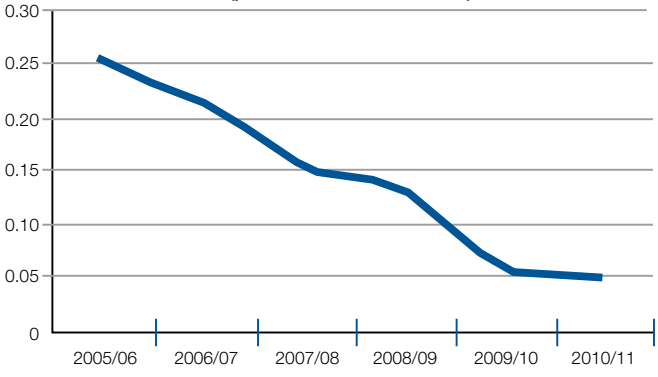
Avoiding risk

Damage to our assets by third parties places operatives and the public at risk and possibly jeopardises supplies to many thousands of customers.

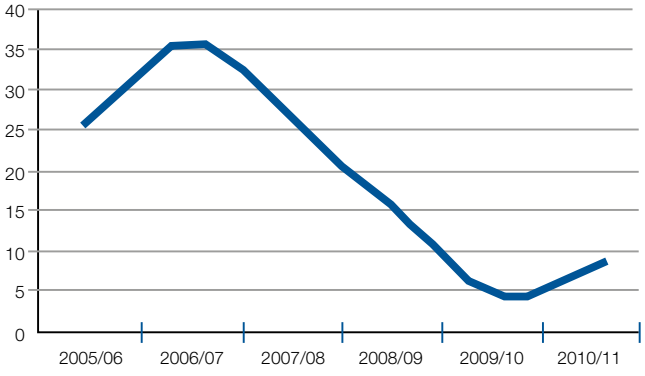
Taking a process view of safety led us to review third party damages to our pipes. A key issue we identified was the need to communicate clearly with organisations working in close proximity to our equipment and pipes, ensuring they not only understood the advice being given to them but the consequences of failing to act upon it. We have recently developed a hard-hitting presentation on damage avoidance that has received positive feedback.

The presentations are making sure third parties are aware of our plant protection arrangements and our risk-based approach to damage prevention. The presentation is initially being offered to organisations who we consider to be 'repeat offenders' and we are pleased at the level of interest being shown.

Lost Time Injuries for all employees (per 100,000 hours worked)



Injuries to Members of the Public



To continue to maintain our proactive approach to improving safety we are now also utilising process safety and human factor concepts to provide a new focus to our approach.

Safety Initiatives

Supplementary information

Taking us to the next level

Human factors have contributed to many major accidents. External studies have shown that human factors, largely behavioural, account for approximately 80% of incidents. Therefore, to continue to improve our safety performance, and to further reduce the risk to the public from a serious gas related incident, we have increased our focus on human factors as a means of more effectively controlling our process safety risks going forward.

We have embedded this in our culture via our 'Safe Person' approach and reinforced this through our safety roadshows.

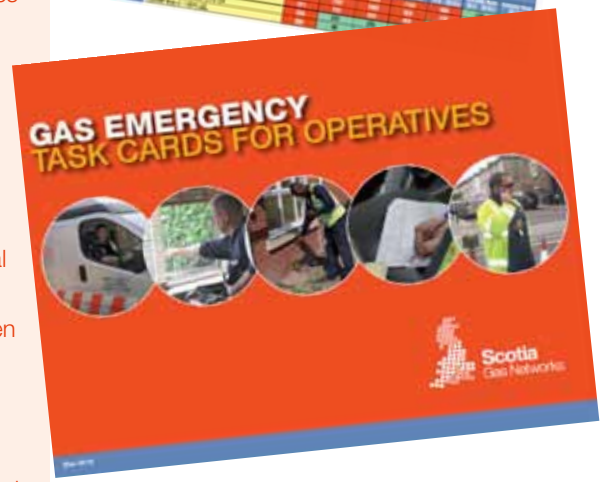
A recent example of how assessing human factors has been used to improve our safety performance is demonstrated in the development and implementation of our new 'Risk-based Gas Escape Management processes and procedures'.

Effective management of gas escapes is one of our key risk control systems, aimed at minimising the risk of a gas escape leading to a more serious incident. Following a serious property explosion in 2005, National Grid developed and introduced a risk-based approach to managing the emergency response to gas escapes. We recognised the benefit of this approach and applied the same technique when undertaking a fundamental review of our own methodology, processes and procedures for dealing with gas escapes. The primary objective is to minimise the risk to the public when managing gas escapes.

The resulting output was our Emergency Management Improvement Programme that delivered a package of measures which built on and improved the National Grid approach. The measures were fully demonstrated to the Health and Safety Executive and incorporated into our Gas Transporter Safety Case. The key elements are a new risk assessment process and new task cards to support operatives and managers in the consistent application of the new processes and procedures.

Our gas escape processes:

- Are underpinned by a risk assessment methodology which provides a quantitative, qualitative and consistent approach
- Remove the subjectivity of the former arrangements
- Reduce the risk of human error
- Provide a risk-based means to prioritise gas escapes for repair
- Provide a means of measuring residual risk from outstanding gas escapes
- Demonstrate that a suitable and sufficient risk assessment has been carried out and recorded
- Deliver effective and efficient management of gas escapes
- Demonstrate compliance with the relevant sections of the Gas Safety Management Regulations



Human factors keep us in control

While undertaking the preparatory work for the establishment of our new Gas Control centre at Horley, a key part of the project was being able to demonstrate that the risk of human errors ('human factors') in this safety critical operation were fully assessed and minimised. We commissioned external human factors experts to conduct extensive assessments focusing on competence, communication, managing workload and supervision, as well as ergonomics.

This project also served to illustrate the value that the careful consideration of human factors can make to reducing risk and helping our workforce to be more effective – in short, it is a vital tool in taking our safety performance to a higher level.

A different take on teacher training

We have also been a hit in the classroom. During the year our people have been taking the gas safety message to a younger audience. Pictured here is David Mair, one of our First Call Operatives in Scotland, talking to a group of 30 primary school children about his duties as a gas engineer.

David said: “I spoke with the kids about the work we do, the importance of gas safety, a little about engineering and most importantly about what to do if they smell gas.”

They seemed to enjoy what David had to tell them and the feedback from our future customers has been beneficial and we are now developing this programme across our business.

The Risk Factory in Edinburgh is a purpose-built safety centre where everyday risks are recreated in a safe environment. Community groups visiting the centre take part in activities in which they experience the circumstances that lead to these risks. Staff from our Safety, Health and Environment team, along with colleagues from the local operational depot provide hands-on help to deliver gas safety messages to many of the visiting groups.

Know what’s below

We are tackling the risk of damage to our assets across the full spectrum of potential ‘offenders’, including the public themselves.

We have produced our own ‘Know what’s below’ information. We also intend to collaborate with other distribution networks in creating a joint leaflet that can be distributed to the public via retail outlets with a national footprint. The leaflet will provide information on underground plant and how to avoid damaging it. We have also engaged with the Federation of Demolition Contractors to enlist its support to communicate with its members.

Portable Pipeline shows its worth

Following the development of the concept of our portable pipeline, it has been successfully used to maintain supplies in both planned and emergency operations.

The idea has now been taken up by a second distribution network – giving an example of how competition for ideas also leads to sharing of learning and best practice.

Scotia Gas Networks

Smell gas?

DON'T smoke or use any naked flames.

DON'T touch any electrical switches. Turning a switch on or off could ignite a gas escape.

DO open windows and doors. This gets rid of any gas.

DO turn off the gas supply at the meter (unless the smell of gas and the meter are in a cellar). Make sure any gas appliances are turned off.

DO call the National Gas Emergency Number on 0800 111 999*. Lines are open 24 hours a day, 365 days a year.

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* all calls are recorded and may be monitored