Our **sustainability** agenda

Discretionary Reward Scheme 2010/2011

Northern Gas Networks takes its environmental responsibilities seriously.

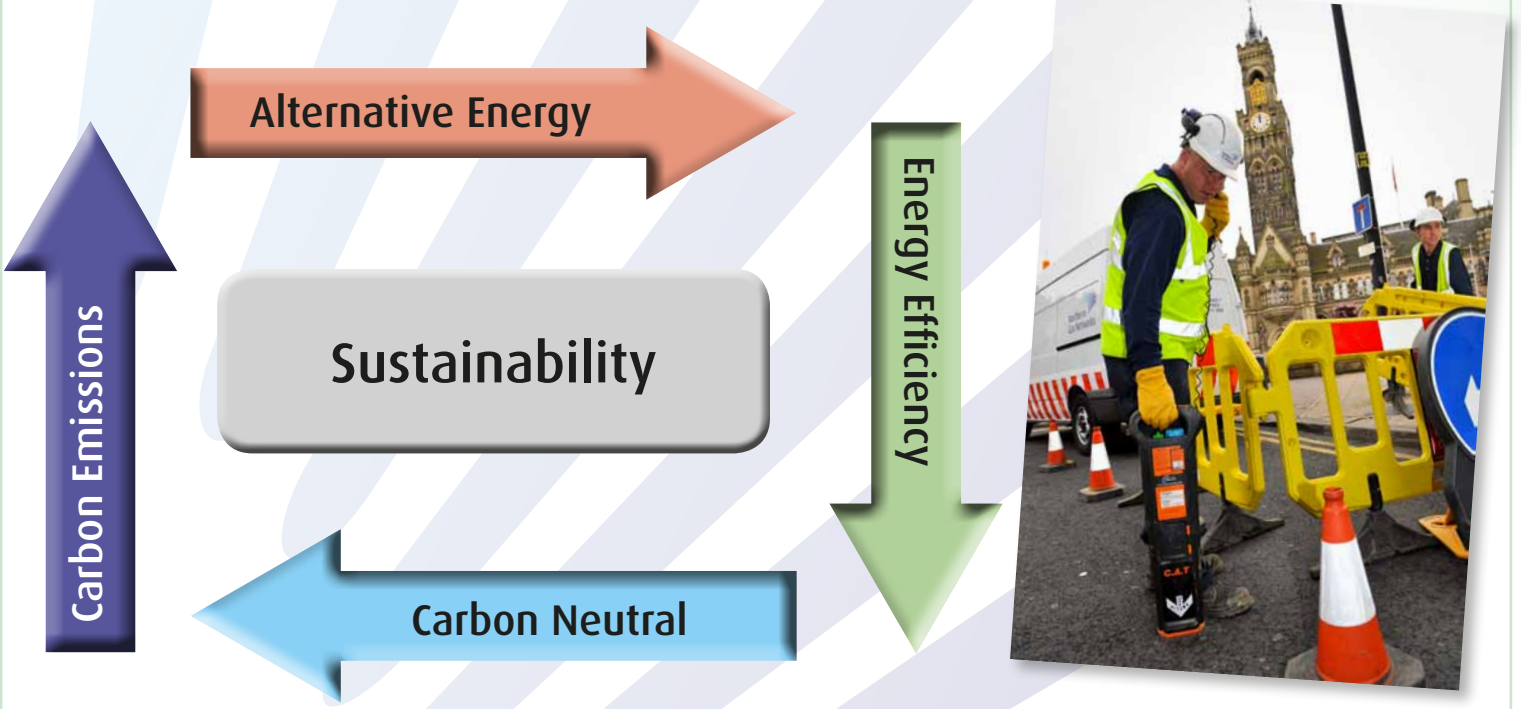
We are committed to improving our environmental performance and minimising the impact our day to day operations have on our environment. Our ultimate goal is to become carbon neutral. To do this, we have chosen to focus on the following areas:

- Introducing alternative energy sources e.g. biomethane;
- Improving our energy efficiency performance;
- Reducing our carbon and natural gas emissions;
- Reducing waste, materials and our use of virgin aggregates.

This is an ongoing journey which predates our formation in June 2005 from the amalgamated Northern and North East gas network - the first UK network to attain the environmental accreditation of the internationally recognised standard, ISO 14001 in 1999.

We have many ongoing initiatives which are not for the short term and link into the Climate Change Act 2008 and the legally binding carbon reduction targets. We will play our full part, not because we have to, but because we want to.

We recognise that caring for the environment makes good business sense as it can also contribute towards improving our safety and efficiency performance.



Northern Gas Networks

Exploring energy alternatives

Discretionary Reward Scheme 2010/2011

Biomethane

We are committed to not only contributing to the UK Government's climate change targets but also to helping other organisations to achieve this by stimulating the development of renewable gas production and utilisation by bio-methane technology.

Bio-methane production presents a huge potential to deliver sustainable, cost effective energy. Injecting it into the gas network has been recognised as being one of the most efficient means of using this 'green' energy source. The bio-methane market is well established in Europe is now developing in the UK.

Since 2008, we have worked closely with third party organisations that are developing bio-methane technologies and have made significant progress in developing a connection procedure and gas quality specification to help facilitate Network Entry Agreements (NEAs).

This industry-leading procedure is published on our website and gives developers a quick understanding of the requirements, and costs associated with connecting onto our network.
We have also introduced voluntary standards of service so developers know up-front the standards of service they can expect from Northern Gas Networks.
We have worked in collaboration with Orbital, Quarrington AD Developer and CNG Services Ltd to develop our first bio-methane plant at Quarrington, near Durham. It will link directly with the gas network and is likely to be the UK's first commercial bio-methane installation.

- The facility will be supplying customers by 2012.
- The test rig will be made available to other developers thus assisting in the expansion of this technology.
- The installation will produce around 1.1 million therms of gas a year. This is equivalent to the amount of gas used in approximately 500 new homes every year.
- Importantly, if the biogas was used in a CHP plant, the overall efficiency would be around 50%. By injecting gas into the grid, utilisation efficiency of around 90% will be achieved.

We anticipate the introduction of several more plants within the next five years.

Energy efficiency

In order to help drive improvements in our energy efficiency performance, we have integrated it into our supply chain management and procurement processes to ensure it is at the heart of our decision making processes.

We also have a number of energy efficiency projects running across various workstreams.

These include:

- **Introducing photo voltaic cells to charge the batteries on our above ground installation sites.**
- **Installing energy efficient lighting in our main offices (this also minimises waste due to greater longevity).**

Northern Gas Networks

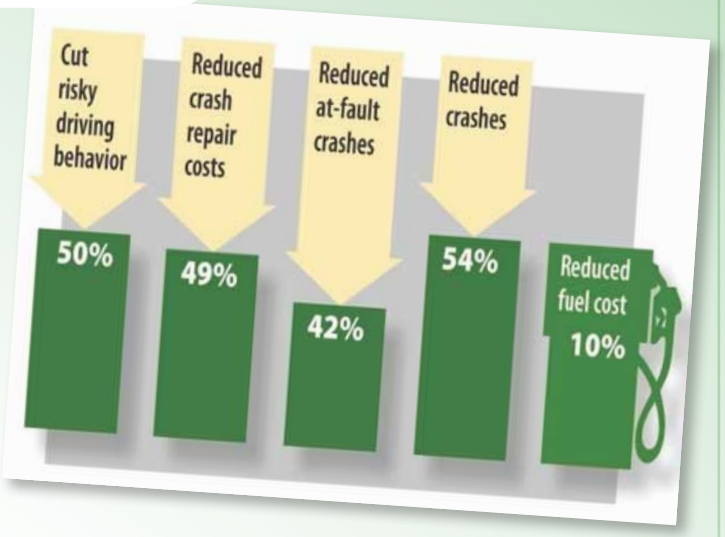
Lowering **carbon** and **gas emissions**

Discretionary Reward Scheme 2010/2011

Carbon emissions

We are taking both a general and a project specific approach to driving down our carbon emissions.
In general we encourage our people to travel less by adopting the latest communication and information sharing technologies. We also actively encourage car sharing when it is necessary for people to travel between our sites.
We are aligning with GreenRoad, a world's leading provider of a comprehensive driving improvement service. By monitoring and accumulating real-time data on driving behaviour we will be able to demonstrate a reduction in carbon emissions through reduced fuel costs. Our targets are:

- Reduced fleet fuel cost of 10%
- Corresponding reduction in carbon footprint of 470,000 kg of carbon dioxide by 2013



There is also an additional safety benefit as research has indicated adopting this technology can lead to a 50% reduction in blameworthy road traffic incidents. GreenRoad's Service combines in-vehicle technology with integrated web-based applications that continuously rate driving skills and behaviour, train drivers in real-time by providing feedback as they drive, and sustain behaviour improvements through constant reinforcement and the chart below outlines the key success areas that have been driven by businesses using this approach. Drivers receive instant in-vehicle feedback on their driving via a red, yellow, green LED display that allows them to make corrections as they drive.

Through this real-time interaction, drivers quickly learn the areas of their driving that expose them to the most risk, and they can be held accountable to proactively eliminate risky behaviours on their own before management intervention is required resulting in drivers being positively motivated to change their behaviour behind the wheel leading to both improved safety and reductions in our environmental impact.

Natural gas emissions

We have an ongoing improvement in the reduction of natural gas emissions through:

- Iron mains replacement of over 530km every year.
- Pressure system management.
- Year-on-year improving response to gas escapes.
- Reducing emissions from leakage by 5% annually.
- Reducing emissions from third-party damages and major reportable incidents to the HSE (down 37% in 2010 from previous year).

Since 2005, we have been in the top two best performing gas networks (either first or second) in the prevention of gas escaping from reported escapes from the network within a 12 hour period achieving an average 1.325% annual increase in performance. We have achieved this by:

- Improving the flexibility of our workforce.
- Critically analysing the profile of escapes we receive and types of repairs we undertake.

Northern Gas Networks

Reducing **waste**

Discretionary Reward Scheme 2010/2011

Recycling our roadworks

A pioneering agreement between Northern Gas Networks and highways authorities in Yorkshire has already helped make our roadworks some of the greenest in the country – and we hope to extend this to the north of our region in the future.

Yorkshire Highways Authorities and Utilities Committee (YHAUC) was first in the country to agree an environmental framework which encourages the use of recycled materials in roadworks.

The first product to be given the green light for use was CBEM3 – a sustainable material developed in Leeds by Northern Gas Networks.

The revolutionary product was over 10-years in the making and testing and is made from the material excavated during roadworks. Its use saves around 25,000 tonnes of waste from going to landfill every year and massively reduces our use of virgin aggregates.

The process is simple. Waste which is excavated during our roadworks is taken to a specially developed waste recycling plant in Leeds. Once there it is screened and crushed and loaded onto the mixer vehicle. Cement and water is added to create a flowable material that is then used to re-fill the trench it was taken from.

As well as saving thousands of tonnes of waste from going to landfill, it also helps speed up our roadworks, which is a further benefit to pedestrians and road users. In addition, since it was introduced, the product has performed consistently and there has never been a single defect which is a valuable further benefit.

The product also has an additional safety benefit. As it doesn't require any compaction, its use eliminates any risk of Hand Arms Vibration Syndrome (HAVS).

The use of CBEM3 has been welcomed by YHAUC and there is a strong appetite for its introduction from other Highways Authorities. We have conducted fact-finding visits with highways authorities, utilities and contractors from across the UK. Northern Gas Networks currently operates a smaller waste recycling plant from its base at Cannon Park at Middlesbrough. This is a more limited operation which would require considerable investment to bring it up to the level of the Leeds plant, however, this is our longer term goal.

Pipe dreams

A new-sized pipeline, developed in partnership with our supplier Radius, is delivering environmental benefits by reducing the amount of excavations we need to complete.

The new 17.5mm diameter polyethylene pipe can be inserted into individual copper and steel service pipes and can be used in lengths up to 8m to supply properties with adequate gas pressure – double the previous 4m maximum.

The technique means that a ¾ inch service pipe can be renewed in as a little as 30-40 minutes per property. It has dramatically reduced the amount of excavation, backfill and reinstatement required this further driving down our carbon emissions.

Other initiatives to help us minimise waste include:

- **The removal of desk bins to improve recycling levels in our offices.**
- **Stationery amnesties are held to allow equipment to be re-allocated rather than thrown away.**
- **Doing the same with fluorescent bulbs**
- **Conducting a trial of rechargeable batteries in our gasco seekers.**

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