

FRACKING

What everyone should know



**A VISION FOR SHALE
GAS EXTRACTION IN
THE EAST MIDLANDS
AND WHAT WE BELIEVE
IT CAN DELIVER FOR
LOCAL COMMUNITIES**

INEOS Shale

Welcome



At INEOS we really believe it's time to set the record straight about shale gas.

We know that shale gas presents the UK with a once-in-a-generation opportunity to change the lives of people up and down this country for the better - bringing energy security, new jobs, skills and investment.

That's why in this supplement, we are outlining many of the key facts and exploring a number of the topical debates that surround this important issue.

The UK needs to decide its energy policy moving forward.

When I talk about energy policy, at its most basic level, I mean: how are we going to keep the lights on?

Coal is dirty; nuclear is expensive; importing gas means additional carbon emissions vs local gas, and means we are dependent on getting supplies from some of the most unstable regions in the world; and renewables simply don't provide enough energy all of the time.

That is why, at INEOS, we believe shale gas could play an important part in providing us with the energy that could power the nation in the future and help to reduce CO₂ emissions.

However, we also understand there needs to be a fair and open debate that asks the challenging questions.

It is important to acknowledge there have been some issues - but they happened in the early days of US shale exploration. In the UK we have one of the most rigorous safety and regulatory regimes in the world.

We are not complacent and I do understand people's concerns, but there has been a lot of misinformation put out.

In light of this, all I'd ask you to do is read this supplement, do some research yourself, and challenge us if you think we're wrong.

I believe INEOS' shale gas plans offer a once-in-a-lifetime opportunity for the UK to become Europe's leader in this new and exciting industry and I would urge everybody to look at the issue with an open mind and see the huge potential for our nation and future generations.

Tom Pickering
Operations Director INEOS

What could shale gas do for the Midlands?

From delivering new jobs and investment in local communities to even sharing in the revenue made, shale gas extraction could help provide a major boost to the region's economy

Extracting gas to meet our needs, rather than having to rely on imports would have significant economic benefits for the Midlands and the rest of the UK.

It has been estimated by the Institute of Directors and professional services company E&Y that 64,000 jobs could be created in the gas industry and wider supply chain.

Exploration is needed to better understand the economics, but it's possible that shale gas could help invigorate and rebalance the economy for both our region and the country as a whole.

This could be particularly beneficial in our part of the world which has seen a major downturn in traditional industries such as mining

over recent decades.

Local communities would benefit from significant investment, new jobs and local tax revenue if extraction went ahead.

And they would receive a share of revenue from extraction, which could have a substantial impact on the regional economy and local public services.

We have promised to share six per cent of revenue from shale gas, between landowners and residents in the immediate vicinity of the shale gas wells and the wider local community. In addition business rates will be paid.

Based on our estimates, a typical 10km by 10km development area would generate £375 million for the area over

its lifetime.

It is vital to carry out initial exploration through test wells to understand how much gas could be extracted, but it is a real possibility that it could provide a secure supply of fuel and raw materials.

Shale gas is an opportunity that the Midlands and the UK cannot afford to overlook.

It is an opportunity for the UK to reduce its dependence on imported gas, while potentially creating tens of thousands of jobs and generating significant tax revenue and growth.

It is especially important to the future of the UK chemicals industry which uses gas to produce raw materials

used in the manufacture of thousands of every day items.

Respected authorities such as the Royal Society and the Committee on Climate Change recognise that extraction can be managed safely whilst meeting our carbon reduction commitments.

With the US and China extracting shale gas, the UK cannot afford to overlook this opportunity and risk being left behind.

This is why we believe it is essential to undertake proper public consultation and exploration to better understand what shale gas could mean in for the UK and demonstrate its safety in order to win a social licence.

Natural gas is essential for the modern world and many

of the benefits it brings cannot be replaced by renewables.

It is used for heating 22 million UK homes and without gas we would need to replace our gas-fired central heating systems at a cost of about £2,000 per household - which is £44 billion in total.

We have huge gas reserves in the UK right under our feet.

Because this part of the world has a long and proud tradition of coal mining, there is already a large amount of detailed information about the types of rock and minerals underground which makes the search for shale gas much easier.

The fact that the Midlands has produced large quantities

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of coal also means it is likely to have substantial reserves of shale gas trapped in the rocks.

INEOS has extensive experience in operating complex chemical plants and employs over 17,000 people in 16 countries.

We already produce gas

from the North Sea which serves one in ten homes in the UK.

Safety is of paramount importance and INEOS has one of the best safety records in the industry.

FIND OUT MORE

We will be open and honest in

our dealings with local people and want to explain our plans as they develop to local communities.

For details about shale gas and what it could mean for local people, visit our website for upcoming public exhibitions and join our mailing list for email updates.

Fracking at a glance

All you need to know about the subject at your fingertips

WHAT IS SHALE GAS?

Shale gas – natural gas just like the gas we enjoy from the North Sea. It is simply gas trapped in shale rock rather than sandstone or limestone rock.

WHY DOES THE UK NEED SHALE GAS?

To replace North Sea gas which is running out – the UK now imports half of its gas.

Fuel: To generate electricity and heat our homes.

Raw materials: UK manufacturing needs gas to produce everything from plastics to the chemicals used to clean our drinking water.

Jobs: The Institute of Directors estimates the industry will create over 64,000 jobs directly, and protect 500,000 jobs in industry.

Revenues: Oil and Gas Producers can pay between 30% and 60% tax to the UK Treasury.

Security of supply: Shale gas will make us less dependent on volatile regions.

WHAT IS FRACKING?

Fracking is the key to releasing gas trapped within the shale rock. It opens up tiny cracks already present in the rock deep underground to allow the gas to flow to the well and up to the surface.

The fracking operation takes around a week once the well has been drilled.

WHY DON'T WE USE RENEWABLES INSTEAD?

The UK is generating more and more electricity from renewables. However to be reliant on it for power demand alone is going to take decades. In addition, some heating and industrial demand cannot be replaced by renewables.

Gas is the lowest carbon emit-

ter of the fossil fuels and will help bridge the gap until electricity supplies from renewables is reliable. Wind turbines don't work when there is no wind or indeed too much wind.

Solar power only works

during daylight.

The national grid has to provide a stable electricity supply with a frequency of 50Hz. Otherwise the electric machines we all rely on – from computers to TVs, lights to motors to fridges – would fail. If we relied on renewables this would not be possible. There would be times of the day where there was too much demand and there would be power cuts, blackouts and shortages.



GAS IS ESSENTIAL FOR THE MANUFACTURE OF CHEMICALS USED IN OUR EVERY DAY LIVES

64,000 JOBS

E&Y AND IOD ESTIMATE THAT MORE THAN 64,000 JOBS COULD BE CREATED BY THE SHALE GAS INDUSTRY



What is fracking?

Fracking (also known as hydraulic fracturing) is the key to releasing gas trapped within the shale rock.

It opens up tiny cracks already present in the rock deep underground to allow the gas to flow to the well bore and up to the surface.

The fracking operation takes place once the well has been drilled. It takes around a week for each well.

We then pump a fluid at high pressure into holes we created in the steel casing to open up the tiny cracks in the shale rock and to deliver grains of sand to prop the cracks open.

98% of frack fluid is water, 1.5% is high purity crush resistant sand (as used in filtration plants and children's playpits) with the last half a percent being chemical additives used principally to hold the sand in suspension in the water and to prevent rusting of the steel pipe.

The additives, which are commonly used in households, have to be publicly disclosed and must be non-hazardous to groundwater.

Once the gas begins to flow some of the frack fluid returns to the surface where it is captured in sealed tanks and either reused in another fracking operation or sent away to a licensed facility for treatment to remove contaminants before being safely disposed of.



LIFE CYCLE OF A FRACKING SITE

1) Field with seismic equipment - Understanding the geology of sites using advanced 3D seismic technology.



3) Site with the fracking vehicles on site - hydraulic fracturing equipment is brought on each site. Each stage takes around an hour. A typical well requires up to 20 hours of hydraulic fracturing spread over a period of 7-20 days. Then this equipment is removed.

The progressive case for why

Gas is a fossil fuel, but is much less damaging to the climate and to air quality than coal or oil are. The move away from fossil fuels will take many years, so priorities must be set.

Coal should be phased out first, then oil.

Many environmentalists accept that gas is less bad than coal, but nevertheless oppose shale gas. They cite potential local environmental impact and higher greenhouse gas

emissions than from conventional natural gas.

There can indeed be local impacts, so all shale gas activity must be firmly regulated – which did not happen in the US under the Bush administration. Inadequate regulation can also lead to higher greenhouse gas emissions if methane is allowed to leak out of wells.

But this is not inevitable. Well-regulated, electricity from shale gas has greenhouse gas

emissions which are not significantly higher than those from natural gas – and much lower than those from coal.

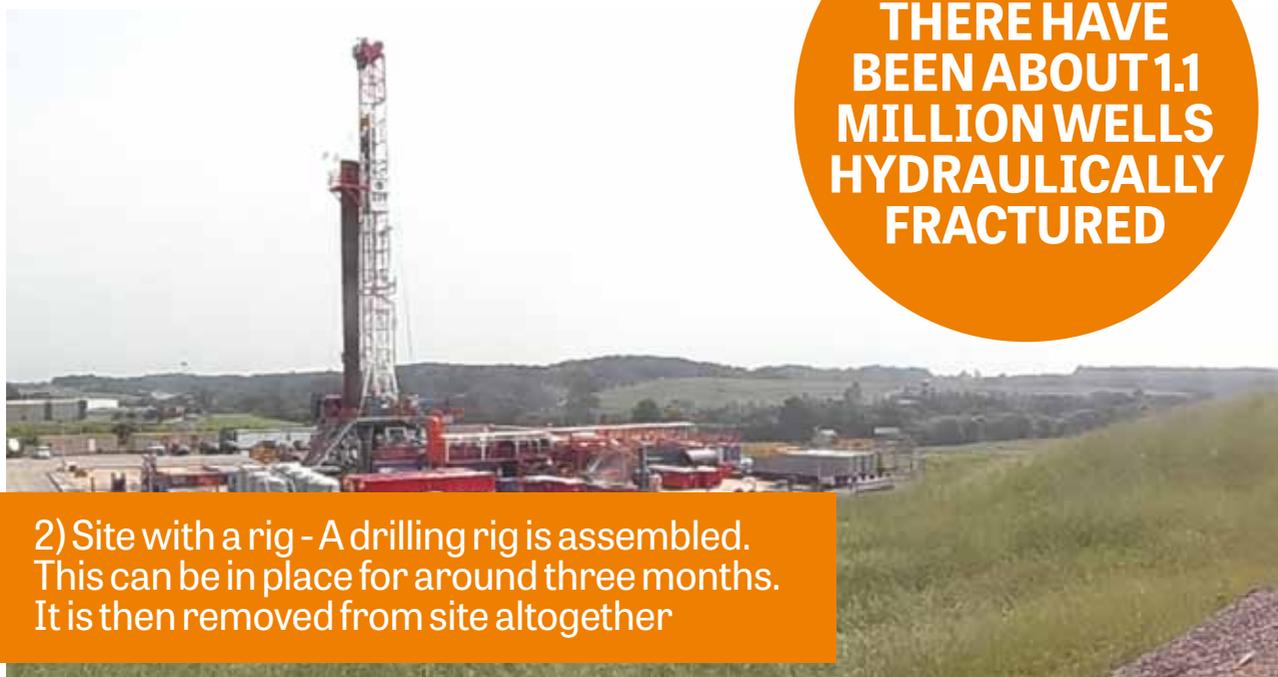
The British government has said that UK coal power stations will close by 2025.

However, that is only a political target, and British governments of all political colours have a track record of not meeting targets. In addition, the then Energy and Climate Secretary Amber Rudd said in announcing the target that

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It's a term used commonly in the news but here we set out what's actually involved in shale gas extraction

**WORLDWIDE,
THERE HAVE
BEEN ABOUT 1.1
MILLION WELLS
HYDRAULICALLY
FRACTURED**



2) Site with a rig - A drilling rig is assembled. This can be in place for around three months. It is then removed from site altogether



4) Producing site - The well site is reduced in size. It can continue to produce gas for up to 20 years

Why INEOS?

Our vision for shale gas stems from our experience as a user in the United States.

We have seen first hand how shale gas transformed US manufacturing by providing a secure and competitive supply of energy and raw material.

Twelve years ago investment in manufacturing in the USA had dried up, today this trend has reversed. For example, in the chemicals sector \$184 billion is being invested in new facilities, creating hundreds of thousands of jobs.

In the UK, meanwhile, the chemicals industry faces a difficult challenge with its supply of raw materials from the North Sea (particularly ethane and other light hydro-

carbons) rapidly drying up and energy prices becoming increasingly uncompetitive compared to the rest of the world.

As a result, the UK has seen a number of high-profile closures in recent years and investment is being diverted abroad.

INEOS uses gas both to power our chemical and refining plants and as a feedstock to make the plastics and chemicals the UK manufacturing industry relies upon.

The country already imports more than 50% of its gas from overseas. We believe that producing gas from deep underground in the UK makes much more sense for the nation than costly imports - and it is better for the environment with lower carbon emissions.



we should be using shale gas from Great Britain

this would only be done if consistent with energy security. No new nuclear power station will be operational by 2025. Solar and wind power are expanding impressively, but currently need gas power stations as back up. So we need more generation from gas. The Government has now given Cuadrilla permission to begin fracking for shale gas in Lancashire. I welcome this decision, and

accept that it is legitimate for national government sometimes to overturn decisions of local government in issues of national importance, which energy policy is. (So it would be legitimate for national government sometimes to overrule local government on wind farms; the current Government's refusal to do this is inconsistent.) Many green groups are campaigning hard against shale gas. I have in the past worked

for three green groups, so I recognise their importance to policy-making and performance. Pressure groups keep both politicians and businesses under healthy scrutiny. But, like public policy, campaigns should be based on evidence rather than ideology. Constructive campaigning should also involve willingness to discuss issues with all parties, including those who take a different view. In 2014 I blogged on 'the cli-

mate case for shale gas' (<http://climateanswers.info/2014/05/the-climate-case-for-shale-gas/>) I am now beginning some work for INEOS - alongside my work on community energy, advanced nuclear energy, CCS and tidal lagoons. INEOS want a dialogue with local communities, including green groups. I believe that there is a clear need for such a dialogue, to scrutinise the arguments of all parties and build under-

standing.

A dialogue might lead to changed positions - but would be worth having even if it did not.

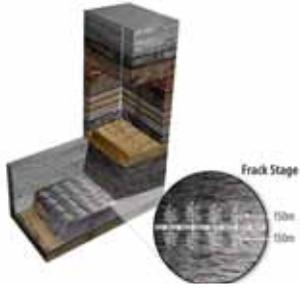
Shale gas is not perfect. But in my view it is a necessary part of emissions reduction and the closure of coal stations as soon as possible. Supporting shale is a pragmatic judgement.

It may not be very visionary or inspiring. But pragmatism often delivers progress.



Stephen Tindale (@STindale) is a climate and energy consultant. He runs the Climate Answers website www.climateanswers.info

Gas extraction process from start to finish



Shale gas is natural gas just like that we enjoy from the North Sea that is piped into our homes for heating and cooking.

GETTING DATA: The first step to getting the gas out is to find it. INEOS will send soundwaves underground and record what is reflected back to build up a picture of the rocks below. Soundwaves are created by using vibroseis machines (about the size of a bin lorry) or small charges buried about 10 metres underground.

DRILLING VERTICAL WELL: A small well is drilled straight down to the shale layer so a sample of the rocks below can be brought to the surface to analyse what it is made of and if it contains gas. It's a bit like extracting a core from an apple

HORIZONTAL DRILLING: If we decide to test the potential flow of gas, we will drill horizontally through the deep shale rock by turning the drill to go across, not down.

FRACKING AND FLOW TESTING: Fluid is pumped at high pressure to open up tiny cracks in the shale rock which are propped open by tiny grains of sand contained in the mixture.

PRODUCTION DEVELOPMENT: Multi-well pads together with horizontal drilling allow us to access a wide area below ground but minimise the need for land at surface.

A 10-well pad would take the size of around two football pitches at surface but extracts gas from an area of 10-15 square km. This reduces to the size of about two tennis courts once production starts.

PRODUCTION: The wells will silently produce gas for up to 20 years with little maintenance. INEOS has promised to share 6% of gas revenues with landowners and local communities.

DECOMMISSIONING: Once all the gas has been extracted the wells are filled with cement and sealed, all surface equipment is removed and the ground restored to former use.

Why Fracking?

Shale gas extraction has been used in the oil and gas industry for more than 50 years and could bring huge opportunities to the East Midlands



The Government has recognised that shale gas has the potential to provide the UK with energy, jobs and growth. Shale gas is the same as North Sea gas.

They are both the natural gas that we use to heat our homes. Shale gas is simply gas formed in shale formations 2-5km underground. To replace North Sea gas, which is running out, the UK now imports half of its gas.

Done properly, responsible shale gas extraction, within a strict regulatory framework, presents a significant opportunity for the UK with minimal environmental impact.

The UK is committed to reducing CO2 emissions by 80 per cent by 2050 and has ambitious policies in place to promote renewable energy sources and has made great progress in decarbonising electricity generation.

But it will take many decades to fully transform, so gas is needed in the medium-term to meet our energy needs responsibly.

As recognised by the Intergovernmental panel on Climate Change, gas has about half the emissions as coal and around 10% less than imported gas, so we have an environmental duty to use gas rather than coal for energy during this

period.

But gas is not just a fuel that we burn for energy.

It's also a raw material used in the manufacture of chemicals that are used in a wide range of important products, including medicines, clothing, buildings, cars, computers and green technologies such as wind turbines and energy-efficient materials.

We will still need gas to make these essential items

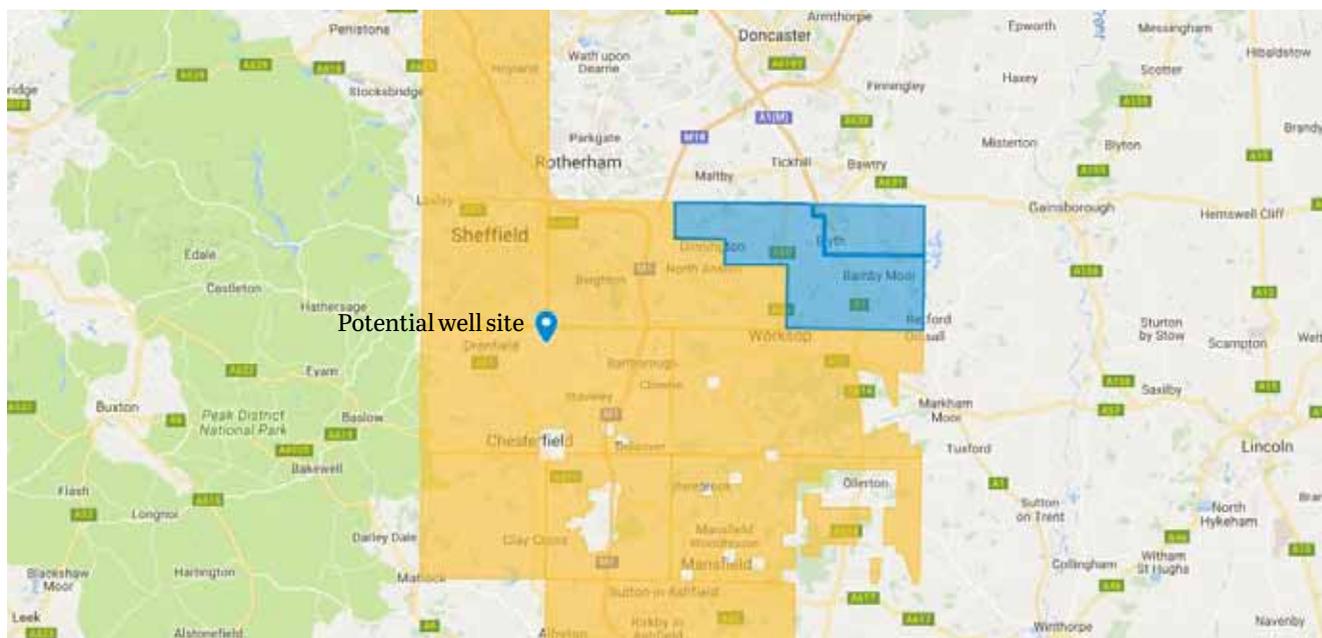
once we have made the transition to low-carbon energy.

So it's vital that the UK has a secure and competitive long-term supply of gas to underpin the future of the manufacturing sector.

It is estimated shale gas extraction could create more than 64,000 jobs in the UK and protect 500,000 jobs in industry.

Producing our own shale gas will also make us less

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The truth about Sherwood

Friends of the Earth have been running a campaign to prevent shale gas extraction in the UK.

They claim that "...UK shale gas cannot help tackle climate change, and would instead make it harder to meet our climate change goals."

They have also asserted that Sherwood Forest and the Major Oak are endangered, saying that "public forests including the legendary home of Robin Hood are under threat from chemicals giant INEOS." So what is the truth?

We do need to address climate change, and find a pathway from the current situation to a lower carbon future. This will include increasing renewables usage, and development of new technologies. But this is not a gas vs renewables debate. Friends of the Earth's own input to the "DECC Pathways" model, which includes

aggressive growth in renewables capacity, shows substantial emissions from the gas use in heating and industrial sectors out to 2050.

With the decline in UK gas production from the North Sea this implies we will be importing gas into the UK for many decades.

Imported gas is 10% less efficient in climate change terms than UK produced shale gas, and perhaps more if the environmental standards used in the countries that produce the imported gas do not measure up to the UK's high standards. In addition, we will be exporting jobs, and we will not be taking advantage of the resource we have here at home.

Even in a world that is on a declining carbon emission track, we need gas, it is just a question of where it comes from. Friends of the Earth con-

veniently ignore the benefits of displacing imported gas.

On the accusations of Sherwood Forest being "under threat" - we have been clear in our publicly available materials that we exclude areas of urbanisation and environmental designations as surface drilling locations. Sherwood Forest Nature Reserve, the Country Park and other ancient woodland nearby clearly fall within the environmental designation description. Friends of the Earth seem to have ignored that information. The Major Oak isn't even within our licence area. We are planning to undertake seismic surveys across a wide area of our East Midlands licences, including part of Sherwood Forest.

The survey layout and method would be confirmed in consultation with Natural England and Nottingham-

shire County Council. This is not drilling or fracking. The seismic surveys inform the geology conditions across a wide area, and do not imply that any development activity can or will take place across all areas surveyed. Legislation does not permit development in these areas.

If, as part of our data gathering exploration effort, we decide to apply for planning permission to drill a vertical coring well or a horizontal well with a view to fracking, such a well would be drilled from a surface location outside the area of designation. Even if we wished to drill horizontally below the forest there would be no impact on it as the borehole will be at a depth of approximately 3.5 kilometres below the surface, and any such proposal would need to meet the UK's strict environmental and safety tests.

Regulation puts safety first

The protection of human health is a fundamental principle of the regulatory planning and environmental permitting process.

Potential environmental and health hazards are investigated through bespoke assessments tailored to local environmental and social context to assess any potential risk directly attributable to what is proposed.

The potential hazards associated with onshore oil and gas are well understood, and appropriate design is the primary mechanism to control all potential hazards which are

then addressed through the UK regulatory planning and permitting process.

The objective and outcome of the planning process is that any potential hazards are removed, or controlled such that there is no potential for health risk 'avoidance'.

Where this is not possible, the regulatory regime controls and minimises emissions in order to achieve a high level of protection for the environment and human health 'mitigation'.

As an example of how hazard is addressed through planning in the UK, there is

significant health concern regarding undisclosed or hazardous hydraulic fracture fluid used in the US and Australia, and the potential risk they pose to ground water and locally abstracted drinking water.

In the UK, all hydraulic fracture fluids are fully disclosed and must be non-hazardous to ground water, thereby de-coupling the hazard-source linkage.

Well location, design and integrity are then further applied to minimise the risk to ground water. Site design management and waste man-

agement are also in place to manage the risk of surface water contamination, thereby further decoupling any potential exposure to hazard.

On this basis, design serves to sever the source-pathway-receptor linkage, thereby removing and reducing potential risk.

It is then the purpose of environmental permitting to test and validate the protection of the environment, where a permit to operate will be issued.

The permit can be retracted by the regulator if this is not the case.

INEOS all you need to know

INEOS started in the UK in 1998 and we've grown to become one of the largest chemicals companies in the world, with 65 sites in 16 countries.

In the UK, we have large sites at Grangemouth, Runcorn and Teesside which employ thousands of skilled workers and make a significant contribution to their local economies.

We employ 4,000 people in the UK and are one of the country's largest manufacturing businesses.

We also own land, pipelines and storage in some of the key areas being explored in the UK.

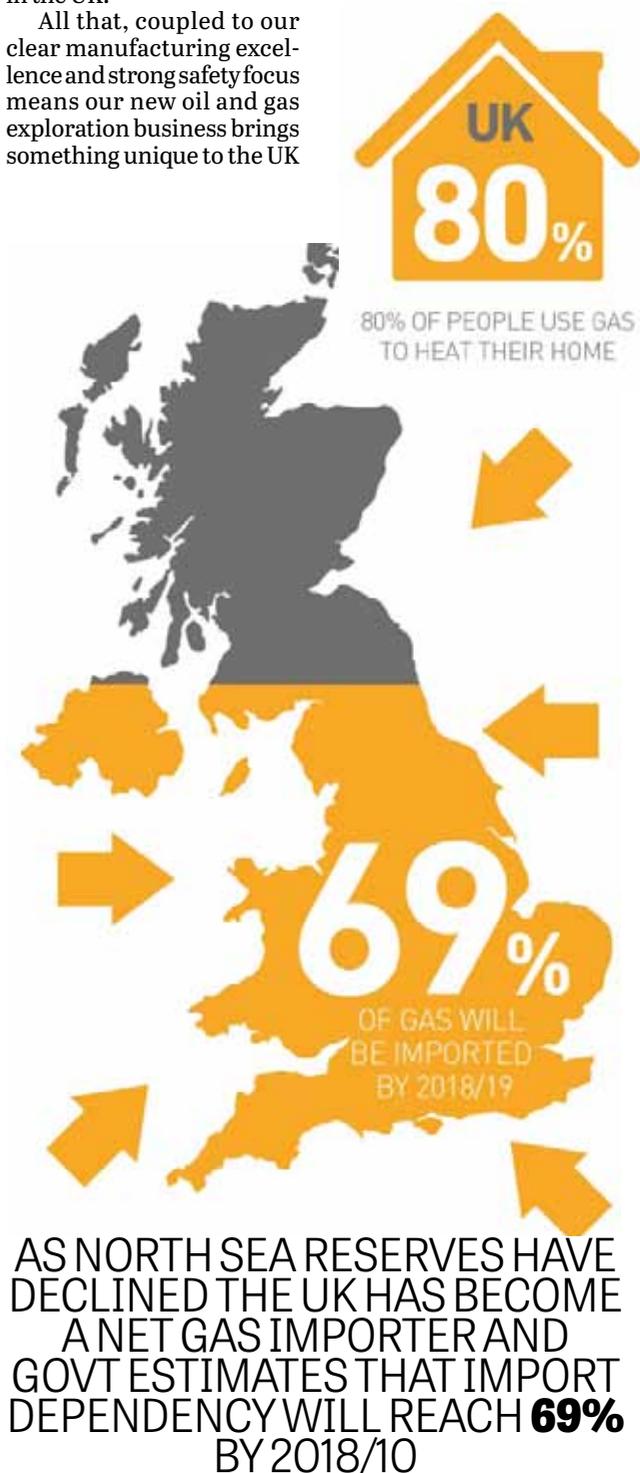
All that, coupled to our clear manufacturing excellence and strong safety focus means our new oil and gas exploration business brings something unique to the UK

shale gas industry.

INEOS make chemicals out of gas to supply many of the raw materials for manufacturing across the UK and beyond.

Manufacturing companies depend on the secure and competitive supplies of these raw materials and energy to prosper.

Since acquiring our first licence to explore for shale gas in 2014 INEOS now has over 1 million acres under licence in the major shale gas basins of Cheshire, East Midlands, South and North Yorkshire and Scotland.



Your questions answered

Q: IS FRACKING SAFE?

A: Studies have been published by the Royal Society, the Royal Academy of Engineering, Public Health England, the Health and Safety Executive and the Environment Agency.

All conclude that safety risks associated with fracking can be effectively managed, providing that the industry is properly regulated and monitored.

Q: DOES FRACKING CAUSE EARTHQUAKES?

A: The process of fracking is designed to produce a network of very small fractures in gas or oil rich rocks to provide a path for it to be extracted from a well bore.

This is a carefully controlled process, conducted between 2 and 5 kilometres below the surface. Done properly, people should not notice this activity at the surface.

Fracking can cause small tremors deep underground but these are very rare and too small to pose any risk to property or people.

It is the view of the Royal Society and Royal Academy of Engineering that this issue can be managed safely and the UK has put in place strict regulation to ensure this. Extractors are required to monitor seismic activity and stop operations if anything above magnitude 0.5 is recorded.

This is hundreds of times below the energy level that can be felt by humans, and is more strict than standards for coal mining and geothermal energy.

Q: WHY SHOULD THE PUBLIC TRUST YOU?

A: INEOS is one of the world's biggest chemicals companies.

We are used to running huge petrochemical complexes safely.

We have some of the world's leading shale gas experts on our team who collec-



tively have drilled thousands of wells. We believe that the combination of our expertise as a global petrochemicals company and their expertise in shale gas makes for an unbeatable combination.

INEOS has a very good safety record within the chemical industry and we now have some of the world's leading fracking experts working for us.

We operate in communities across the UK where we actively engage in open dialogue.

We see no difference here and we will be open and transparent in all of our plans related to the development of any shale gas operations.

We also strongly believe that the communities above our shale gas operations where we are successful should share in some of the financial benefits, in addition to the wider community benefits brought by additional skilled job opportunities.

Given this and the fact that the regulator will be watching the industry very carefully, we think the public can be com-

pletely reassured.

Q: WHAT ABOUT WATER CONTAMINATION?

A: These wells are between 1 and 5 kilometres below the surface, far beneath the aquifer. They are designed to prevent contamination.

The rare examples of water contamination in the US were caused by issues such as poor well design, poor disposal of process water and poor capping of wells at the end of useful production; none of which will occur in the UK, because of the development of the technology; lessons learned from the US and the strict regulatory regime that will be in place control the shale gas industry.

Q: WILL FRACKING CAUSE LOCAL DISRUPTION OR AIR POLLUTION?

A: The Environment Agency has already said it is not expecting any major air quality issues from shale gas produc-

tion in the UK.

The main gases produced from dry shale gas exploration are methane and nitrogen.

Methane is safely used everyday within our homes, for heating and cooking. The management of methane, across is transportation, use and storage is well understood and tightly regulated within the UK.

Drilling for natural gas has been undertaken safely for some 40 years, both onshore and offshore, in the UK. We know that by using established industry engineering designs and procedures throughout our drilling operations, we can safely manage methane. In the case of Nitrogen, this is an inert gas present in the air we breathe, approximately 78% of dry air is nitrogen.

Q: WILL UK SHALE GAS REDUCE THE COST OF UK ENERGY AND GAS?

A: Gas prices in the US are now around a third of European gas

prices.

The UK needs gas for energy for homes, schools and hospitals – for example, 83% of UK homes currently have gas central heating and many cooking stoves run on gas. UK manufacturing needs gas as a raw material, and desperately needs competitive priced energy – the UK is losing jobs to the US where they have cheap gas.

Locally sourced shale gas will improve security of supply and lessen the risk of high and volatile prices due to uncertainty about gas imports.

Moreover if the UK can help lead the development of shale gas in Europe then there is a real prospect of prices falling in the medium to long term.

Q: HOW MANY JOBS COULD BE CREATED BY INEOS SHALE?

A: The number of jobs that INEOS Shale will create is dependent on how successful our exploration is.

But speaking more generally, a recent report estimat-

ed that the shale gas industry could directly create 6,000 jobs and support between 64,500 and 74,000 in the UK alone (IoD 2013 & EY, 2014).

Q: WILL FRACKING REDUCE MY HOUSE PRICE?

A: There is no material reason why fracking should lower your house price.

The process does not induce tremors that damage property, and developments only involve minor and temporary disruption that must conform to standard planning and environmental requirements, like any other.

In this sense, it is not fracking that will lower house prices, so much as the misinformation that exaggerates the risks of the technology and encourages people to talk down prices.

This risk, however, should reduce if the technology is given the chance to go ahead and demonstrate its safety and minimal local impact.

Q: FRACKING IS SEEN AS CONTROVERSIAL. SHOULD WE BELIEVE WHAT WE HEAR?

A: There has been a huge amount of misinformation about this industry online and in the media.

For instance, the Gasland movies, which show gas coming out of household taps, has no basis in fact and it has been shown that this is actually naturally occurring methane, not associated with shale gas production.

The UK will have a tight regulatory regime to make sure that the industry is strictly managed. INEOS is also very confident we can do this safely.

INEOS is used to dealing with highly complex petrochemical plants and we have some of the world's leading shale gas experts on our team so we are well placed to ensure very high Safety Health and Environmental standards across all of our operations.

WHERE TO GO TO FIND OUT MORE

If you would like to know more, these sites have more information about shale gas exploration, usage and fracking:

FURTHER FACTS:

Environment Agency: www.gov.uk/government/organisations/environment-agency

Oil & Gas Authority: <https://www.ogauthority.co.uk/>

Health & Safety Executive: <http://www.hse.gov.uk/>

Department for Business, Energy and Industrial Strategy: <https://www.gov.uk/government/organisations/department-for-business-energy-and-industrial-strategy>

United Kingdom Onshore Oil & Gas: <http://www.ukoog.org.uk/>

Royal Academy of Engineering: <http://www.raeng.org.uk/>

Gridwatch: <http://www.gridwatch.templar.co.uk/>

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