Remsol

A Blueprint for Shale Gas Community Benefits

About Remsol

Remsol is a growth-focused sustainability, CSR and environmental consultancy based in Lancashire, England.

It works with organisations across the UK to help them do business responsibly and resiliently, and promotes lower carbon energy choices—including natural gas extracted from shale—as an alternative to the use of more polluting coal in electricity generation.

Visit www.remsol.co.uk to find out more.

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Stephen Tindale

UK shale gas production could and should be part of a low-carbon transition, enabling Britain to phase out coal more quickly while strengthening energy security. Domestically-extracted shale gas would be less climate-damaging than coal, but also than imported Liquefied Natural Gas (LNG). Local environmental impacts will not be large, provided that the industry is firmly regulated. Opponents of fracking are guilty of greatly overstating the local issues.

However, there will be some local impacts. The Shale Gas Task Force (https://www.taskforceonshalegas.uk/), to which I was an adviser, noted in its final report in December 2015 that "shale gas operations will have an impact, in terms of noise, disruption and traffic, on those communities directly affected by production sites". The Task Force recommended "that community payments should involve residents, local authorities and operators working together.

This Remsol report is a useful contribution to the process of outlining how community benefits could work.

Continues...

Foreword

The proposal to focus spending on energy efficiency and renewable energy is very sensible; this would underline that shale gas is part of decarbonisation, not an alternative or threat to renewables. The proposal not to include local government, in order to minimise bureaucracy, is a sad reflection on the actual and perceived state of local government, but should certainly be considered as a way forward. A possible 14% increase in property value resulting from energy efficiency work and renewables installation might even be enough to change some opinions.

Anti-fracking campaigners condemn community payments as bribes, and argue that money should be invested in renewables instead of shale gas. This argument is wrong on many levels. However well the UK does on energy efficiency and renewables (and there is clearly great room for improvement on both), it will be many decades before all or most of the energy used in the UK comes from renewables. Those concerned about climate protection need to address the issue of what other fuel sources should be used during those decades. The money proposed to individuals or community groups would not be taken from renewable expenditure; it is from the proceeds of fracking, so will only become available if fracking proceeds. Those living near proposed new infrastructure developments deserve some compensation; the onshore wind industry already gives money to local communities.

Fracking has attracted a lot of public interest. And proper, evidence -based debate about the pros and cons of shale gas is healthy. This report is a sensible contribution to such a debate.

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Executive Summary

With the backing of the British Government, shale gas operators in the UK have pledged to share **1% of production revenues** with local communities.

We estimate that **this will typically amount to £3.95 million** per shale gas 'pad'.

This could prove to be a significant financial boost, however, **schemes of this nature need to ensure they are transparent from the beginning about who will benefit and how**. Communities want to ensure that the process for distributing funds is as simple and transparent as possible, with the minimum of bureaucracy.

Rather than funding community projects, where not everyone will feel the benefit, **the monies could instead be used to fund renewable energy and energy efficiency measures for qualifying residents** living in shale gas communities.

We calculate that **this could provide direct and indirect benefits of around £41,700 per owner-occupied property** for over 260 homes in each community that plays host to a shale gas pad.

It will **sustain local jobs, lower CO_2 emissions, make shale gas an enabler of renewables, and allow operators to fulfil their legal obligations**.

Background to Community Benefit Schemes

Community benefit schemes have become commonplace, and accepted good practice, in support of energy developments in the UK.

The precise structure and financial value of community benefits schemes varies by industry.

The UK onshore wind power sector, for instance, has established a protocol that sees local communities paid £5,000 per Megawatt (MW) of installed capacity where hosting wind farm developments of greater than 5 MW. This benefit is paid every year that the wind farm remains operational, and could therefore earn £100,000 a year for a community hosting a 5 MW development.

The package of community benefits for new nuclear power stations is more complex, but in essence amounts to payments of £1,000 per MW of electricity generated over a 40 year period, with the Government anticipating that it could be worth up to £128 million for the communities around the proposed Hinkley Point nuclear power station in Somerset, for example.

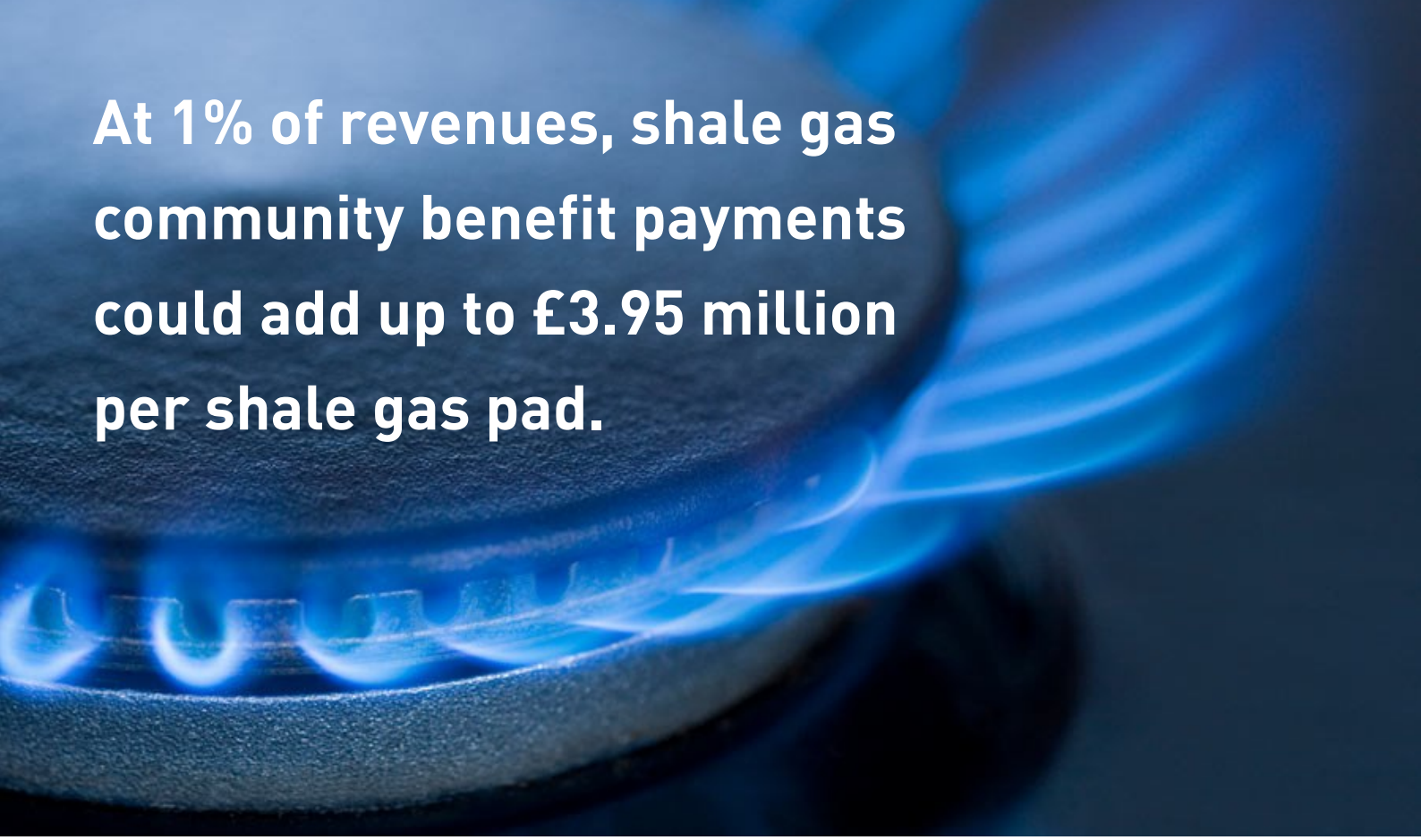
Companies seeking to extract shale gas have committed to paying local community benefits equal to 1% of future production revenues, as set out in the UKOOG Community Engagement Charter.

Shale Gas in detail

Companies seeking to extract shale gas in the UK have committed to paying local community benefits equal to 1% of future production revenues, where the funding would be allocated approximately 2/3rd to the local community and 1/3rd at the county level.

This is in addition to a one-off payment of £100,000 per well site where hydraulic fracturing takes place at the exploration/appraisal stage and a £20,000 easement payment to landowners for every well that extends horizontally underground for more than 200 metres.

Although a voluntary industry scheme, Section 50 of the Infrastructure Act 2015 states that the Secretary of State may not issue a hydraulic fracturing consent until satisfied that a scheme is in place to provide financial or other benefit for the local area.



At 1% of revenues, shale gas community benefit payments could add up to £3.95 million per shale gas pad.

What might 1% of revenue look like?

In its central scenario, the Institute of Directors (IoD) predicted in a 2013 report that a shale gas pad comprising of 10 vertical wells, each supporting four horizontal wells deep underground, could produce 128 billion cubic feet (bcf) of natural gas over a 20 year lifetime, or 1,280,000,000 therms.

As at 14:57 on Monday 20 June, Intercontinental Exchange (NYSE:ICE) UK Natural Gas Futures was predicting that the wholesale price of UK natural gas in Q3 of 2016 will be 34.90 pence per therm. This is up considerably on the 27.36 pence per therm quoted in May 2016.

Based on these two prices, we can see that a typical shale gas pad could be expected to generate revenues of between £350 and £446 million. At 1% of revenues, this would generate community benefit payments of £3.5 to £4.4 million per shale gas pad.

For illustrative purposes, we use the average of these two values, or £3.95 million, in this paper.

Drawbacks of the typical schemes

There are three main drawbacks affecting the community benefits schemes operated across all sectors of the energy industries, and that are relevant in the case of shale gas:

Firstly, residents living nearest to proposed energy developments may not feel any direct benefit from schemes that focus on the distribution of funds to local community projects, despite being the most potentially affected;

Secondly, the delivery and distribution mechanisms can appear overly bureaucratic, with opaque and unaccountable decision-making - especially at the local authority level;

Thirdly, community benefit payments are time-limited and, unless spent wisely, there is a risk that any benefit will only be felt by the host community in the short-term.

These need to be addressed for any scheme to make a real difference to the communities at which it is targeted.

Overcoming the drawbacks

People living nearby need to feel that they will benefit directly.

In the United States, landowners own the mineral rights beneath their properties and can choose to lease these to natural gas extraction companies and receive royalty payments.

In the UK, where all mineral rights belong to the Crown, there is no obvious and direct financial benefit to individual landowners, and there is no guarantee that residents living close to shale gas operations will feel any benefit from schemes that are used to fund shared spaces and community facilities.

The distribution of funds needs to be targeted and straightforward

Research conducted for Remsol by ComRes found that, when presented with a range of potential uses for shale gas community benefits, respondents were most likely to rank payment to local councils to allocate to projects in the local area as the community benefit of least interest to them (39%). Only 5% of respondents said it was the benefit of most interest. The perception that a proportion of community benefit payments may go to local councils is unlikely to improve public support for such a scheme.

Community benefit funds should leave a lasting legacy

The investment of community benefit funds in short-term capital projects, such as installing new playground equipment or improving sports halls, will not necessarily represent the wisest use of shale gas production revenues.

The monies would be far better used to create a range of long-lasting benefits, both to nearby homeowners and the broader community as a whole—even after shale gas operations have ceased in that location.

A Blueprint For Shale Gas Community Benefits

We suggest that the 1% of production revenues could be best used to pay for whole-home renewable energy and energy efficiency installations.

This could include solar PV, ground or air source heat pumps (as appropriate), loft and cavity wall insulation, new double or even triple glazing—alone or in combination—up to a maximum value of £12,000 per property.

With a single shale gas pad expected to generate community benefit payments of £3.95 million over its 20 year lifetime, it would be possible to improve the energy performance of over 260 local homes.

£41,700

Qualifying owner-occupiers could receive a total benefit equivalent to £41,700 over the 20 year producing life of a shale gas pad.

Warmer homes, that are cheaper to run

According to the Energy Saving Trust, by installing the right loft and cavity wall insulation, properly insulating tanks, pipes and floors, and draught-proofing, it is possible to prevent heat losses and make our homes warmer in winter.

Energy efficient windows, that are either double or even triple glazed, can also prevent the escape of heat whilst reducing noise.

Taken together, these and other energy efficiency measures can make a big difference to the comfort and costs of our homes.

By generating electricity with solar panels, and replacing gas central heating systems with air or ground-source heat pumps, it's possible to significantly reduce demand for grid energy and therefore substantially reduce household running costs by at least £685 a year.

Our research shows that if a major local energy development were to fund community benefits, the benefit of most interest to British people is reduced energy bills for homes in the local area, with 39% of Brits ranking this as their first choice.

Lower emission homes with higher values

Based on accepted emissions factors, the typical home is responsible for 4,137 kg/CO2eq emissions a year, or 1,129 kg of carbon.

Even if only half of this could be avoided by on-site renewable heat and electricity generation, that's still a significant and continuing emissions reduction of 2,068 kg/CO2eq per home per year.

The Energy Saving Trust reports that installing the recommended minimum 270 mm of loft insulation can cut emissions by 580 kg/CO2eq per year in a typical semi-detached house, with good cavity wall insulation able to cut 650 kg/CO2eq emissions (both based on a gas-heated house).

Improving household energy performance has also been shown to improve property values.

Research into the impacts of household Energy Performance Certificates, reported by the Department of Energy and Climate Change (DECC) in 2013, found that making energy saving improvements to a home can increase its value by 14% on average - and up to 38% in some parts of England.

Spending surplus funds

The spatial distribution of homes in communities playing host to shale gas is likely to differ significantly—especially between those in a largely rural setting and those closer to urban conurbations.

Community energy

In a scenario where it is not possible to distribute all of the community benefit funds in the vicinity of a particular shale gas pad because the nearby property density is too low, the surplus could instead be used by the community to invest in the development of community-owned renewable energy schemes.

Fuel poverty fund

The decision on how surplus funds should be distributed in such cases should be made by the host communities, of course, but consideration could also be given to establishing a ring-fenced "fuel poverty fund" to provide financial assistance to those living on low incomes in neighbouring communities.

Scholarships

Remaining monies could be used to fund scholarships for local young people leading to jobs in the energy industries.

Clear and Obvious Advantages

Using a percentage of shale gas production revenues to pay for whole-home renewable energy and energy efficiency installations in local communities offers multiple advantages:

Local jobs *- it will support local jobs in the renewables and energy efficiency supply chain at a time when subsidy cuts are being blamed for job losses. 17% of people in our ComRes survey said that the creation of local employment opportunities was the most important community benefit to them.*

Cheaper energy forever *- homeowners that take advantage of such a scheme will benefit from substantial energy savings. According to DECC, consumers paid an average of £1,370 a year for electricity and gas in 2014. With improved insulation, and their own renewable heat and electricity generation, homeowners could avoid a sizeable proportion of these costs forever.*

Lower emissions *- by cutting back on grid gas and electricity, homeowners will be responsible for substantial emissions savings of at least 2,068 kg/CO2eq per home per year. 85% of respondents in our ComRes survey said that reducing carbon emissions from homes, as a result of installing appropriate renewable energy and energy efficiency measures ,was personally important to them.*

Clear and Obvious Advantages

Shale as an enabler of renewable energy *- opponents of shale gas extraction regularly argue that it will result in a decrease in renewable energy investment. The scheme as we envisage it will demonstrate that, in fact, shale gas can and should act as an enabler of renewables.*

Will help operators discharge their obligations under the Infrastructure Act 2015 *- by virtue of Section 50, subsection 6(b), operators are required to ensure that a scheme is in place to provide financial or other benefit to the local area. Our proposed scheme would demonstrably satisfy this requirement.*

A boost for house prices *- by improving the EPC rating of homes, installing whole-home renewable energy and energy efficiency measures will boost resale values. According to research by four leading UK universities, making energy saving improvements to a home can increase its value by 14% on average - and up to 38% in some parts of England.*

Owner-occupiers and tenants gain *- although owner-occupiers would obtain the biggest overall benefit, local residents living as tenants in rented accommodation would still benefit from substantial ongoing household energy cost reductions.*

A significant overall benefit *- by combining the direct investment in whole-home renewable energy and energy efficiency installations, predicted annual energy savings and the increase in house prices that could result, the total community benefit felt by qualifying residents would be significant. For the average home in private ownership, this could add-up to a total benefit of over £12,000 (installation), £13,700 (energy savings assuming a 50% reduction) and a £16,000 house price increase equalling £41,700 over 20 years.*

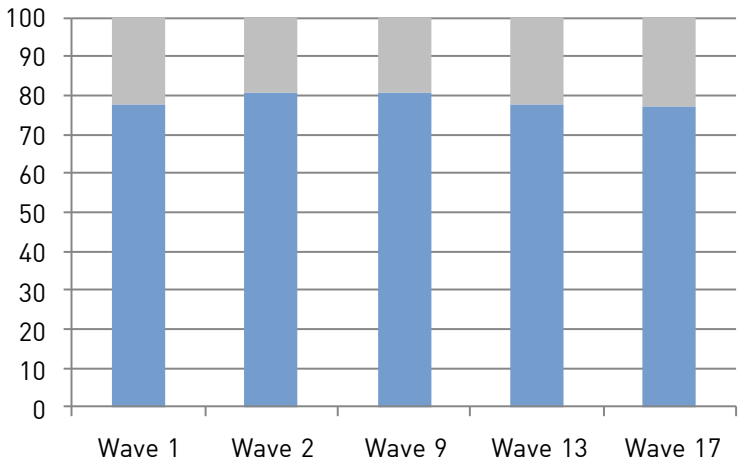
Recommendations

We recommend that:

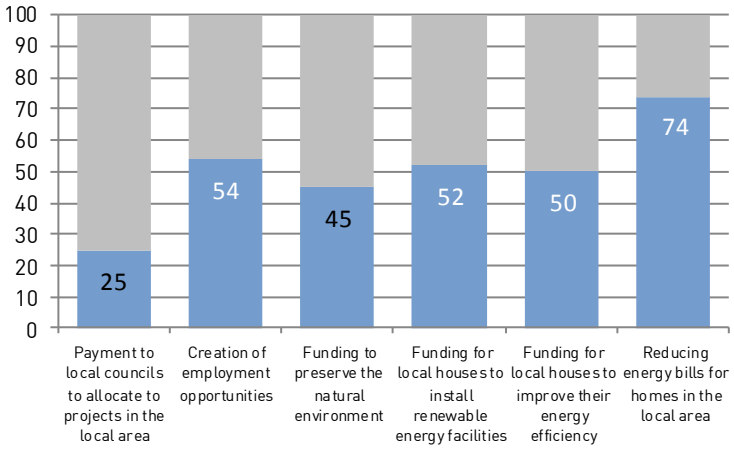
- The UK shale gas industry and host communities give serious consideration to adopting a community benefit scheme such as the one described here during the field development and production phases of operations;
- A vehicle be established in order to deliver such a scheme, including a mechanism for qualifying homeowners and residents to register their interest, for the performance of initial property assessments to determine the most suitable range of measures, and for managing any subsequent installation work;
- Government should commit to using a proportion of its proposed Shale Wealth Fund in order to match the contribution from operators and therefore extend the scheme to twice as many local homes.
- Government should extend the special tax arrangements that cover income from Feed-In Tariffs and the Renewable Heat Incentive such that scheme described herein does not lead to an additional tax burden for qualifying homeowners and residents. There should also be no detriment to in or out-of-work benefits, that qualifying residents might be entitled to, as a result of benefiting from a scheme such as the one outlined.

Appendix—Related research findings

According to Waves 1, 2, 9, 13 & 17 of the quarterly Public Attitude Tracker commissioned by the Department of Energy and Climate Change (DECC), the majority of respondents agreed that renewable energy developments should provide direct benefit to the communities in which they are located." Although a similar question isn't asked, we believe that it is likely people will expect shale gas developments to also provide direct community benefits.



In polling conducted independently for Remsol by ComRes, more than half of respondents ranked the creation of employment opportunities (54%) along with funding for household renewable energy (52%) and energy efficiency installations (50%) in the top 3 benefits of most interest to them if a major local energy development were to fund community benefits. 74% of people ranked reducing energy bills for homes in the local area in the top 3 benefits of most interest to them.



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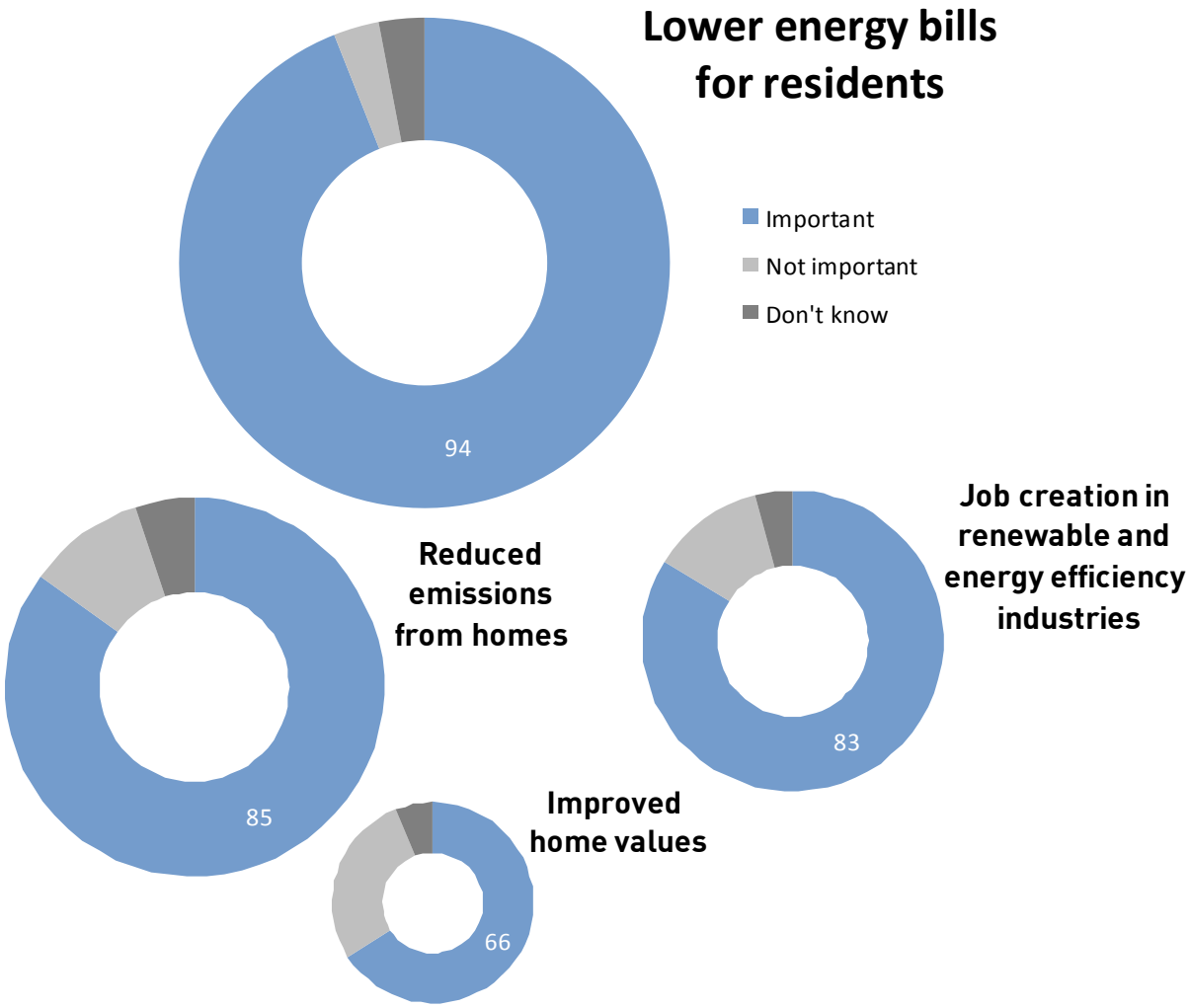

Respondents in our ComRes polling were asked to rate the importance of four potential outcomes that could result from the funding of household renewable energy and energy efficiency measures as part of a community benefit scheme for major local energy developments, including shale gas.

The vast majority (94%) of people said that lower energy bills for residents was an important potential benefit. Four-fifths (85% and 83% respectively) said reduced carbon emissions from homes and the creation of jobs in the renewable energy and energy efficiency industries, and in companies supplying them, were important to them, with two-thirds saying that the increased value of homes that have these measures installed was an important benefit to them.

You can view the data tables at http://www.comres.co.uk/polls/remsol-community-benefits-research/