How Unconventional Gas Extraction would damage Scotland's economic future

A community response to the question “what is the Broad Alliance’s view on unconventional oil and gas\(^1\) in Scotland?”

“Economic problems have no sharp edges. They shade off imperceptibly into politics, sociology, and ethics. Indeed, it is hardly an exaggeration to say that the ultimate answer to every economic problem lies in some other field”

(Kenneth E. Boulding, Nobel nominated economist, The Economics of Peace, 1945)

1. METHODOLOGY

1.1 Measuring the wrong things with the wrong tools

We are very concerned that a cost benefit analysis (CBA) is to form one of the criteria for this economic impact study, and would argue for more socially progressive, holistic and sustainable approaches.

The fact that CBA is widely used in corporations does not give us any comfort, given the current global economic and financial crisis, including in the oil and gas industry. All the economic and financial activities that crashed in 2008 will have been subject to CBA.

We challenge the assumption that corporations provide the ideal for governance and decision-making for governments to follow.

CBA requires the monetisation of the components and results of a process, allowing a rationalistic weighing of pros and cons, and therefore transforms the perspective of government into the mindset of shareholders looking at an annual balance sheet\(^2\) that values short-term gain over long-term costs and outcomes.

Factors like economic growth, new jobs, effects on health, lives saved or lost, endangered species and degradation in landscapes are made into numerical amounts and an overall cost-benefit ratio is made the basis of decision making.

There are a number of major problems with this approach.

1.2 Getting the weighting wrong

Decisions about what is given greater weight, or monetary value, are not transparent or open to challenge and some things simply cannot be monetised. And these are precisely the things a government must consider, but that a corporation would view as externalities.

---

\(^1\) Please note that whilst the government’s consultants use the term Unconventional Oil & Gas with the acronym UOG, the Broad Alliance prefers the term Unconventional Oil & Gas Extraction with the acronym UOGE. The former is non-specific, the latter make clear this is a new extractive industry.

Businesses have a sole criteria – shareholder value - but governments have multiple requirements to consider social justice, global outcomes, environmental issues and to think and plan in an integrated way, and looking to the future.

1.3 **Indifference to who pays the cost and who benefits**

By transforming costs and benefits into monetary values, CBA is largely indifferent to who pays the costs and who receives the benefits. For example if a study shows that children with their developing neurological systems may pay a relatively small to medium health cost, but this is outweighed by costed benefits that are enjoyed by say, shareholders or landowners, then the CBA will, on balance, support the process.

Governments have a duty to think about the needs of the many and to prioritise the welfare of the most vulnerable individuals, so even when a positive ratio or calculation has been generated by a Cost-Benefit Analysis, huge issues over equity remain.

Usually communities that have to live with environmental or social hazards associated with an industry are more deprived, for instance soil pollution with heavy metals being associated with deprivation in post-industrial Glasgow.³ Some advocates of CBA would not necessarily be too troubled by this point, as the neoliberal mindset does allow for a winner-takes-all approach to economics, but this seems incompatible with the Scottish Government’s social democratic aspirations.

1.4 **Disconnected approaches**

CBA disconnects the part from the whole and the present from the future. It tends to consider processes in isolation whereas we would argue for an integrated approach to Scotland’s economic development that is based on the principles of husbandry and nurturing of healthy social and natural systems. This is a much wider conception of economics, but it is one which is likely to deliver greater equity, co-operation and solidarity for Scotland.

1.5 **Discounting the future**

Discounting (whereby the benefit of an investment is measured by looking at the interest that could have been earned if the funds invested were deposited in an interest-bearing account) is a fundamental of CBA. It is a perfectly respectable tool for a small company, but is deeply problematic when it comes to wider economic development and planning.

---

It suggests that money made now is more beneficial than the same amount of money at some point in the future. This tends to promote the economics of over-consumption and waste.\(^4\)

It can distort the focus of governments, for example diverting public investment into infrastructure that promotes business activities or markets that will not make a long-term contribution to the economy (viewed in the widest sense of husbandry, nurturing social and natural systems and planning for the future).

CBA will give a fairly high value to deaths caused immediately by an industry or lack of regulation, but deaths occurring over a number of years because of exposure to a toxic or mutagenic chemical will be discounted, in a similar way to an economic benefit that is gained in some years’ time.\(^5\)

In economic terms it will give a greater weight to benefits for the industry itself, but a lesser weight to the impact it will have on future economic or investment decisions.

The method of discounting the problems of the end game of an industry out of the present equation has been responsible for multiple problems in the UK. Examples are that the UK has significant nuclear waste for which there is no disposal or storage plan and that there are thousands of orphaned oil wells in the north sea. The current crisis over public infrastructure paid for through the PFI process are another example of this failure of future-proofing.

Discounting the future is especially important in the context of the long-term impact of climate change, in fact it could be said that this approach to economics has significantly contributed to climate change and the destruction of eco-systems.

### 1.6 There is a better way

CBA promotes a reckless ‘live fast die young’ philosophy that is ethically unacceptable, and surely good government means consideration far beyond the current generation of voters.

We would argue for a very different approach to assessing the economic impact of UOGE and not only because it is the wrong tool for assessing anything relating to the environment and public health, but also because it is one of the methodologies underpinning economic failure, growing inequality and social injustice.

We would stress that even if a CBA arising from this impact study suggests that UOGE is, on balance, “a good thing” this will not be a convincing argument for communities to grant any social licence to this process.


More holistic methodologies are available for assessing the potential of a new development or initiative, for example the Scottish government’s own National Performance Framework (NPF)\(^6\) or Oxfam’s Humankind Index\(^7\).

The question the Scottish government must answer is will this new industry contribute to achieving its own NPF goals. If it does not use the NPF for this assessment, what does that say about its actual commitment to those goals?

2. THE ECONOMIC PICTURE

2.1 A classic case of boom and bust

The United States, with its developed UOGE industry, must be the main source of evidence on costs and economic impacts. A short period of reasonable returns for early investors has been followed by a major collapse now underway where many investors will need to write off debts.

In an interview with the Financial Times as early as October 2013, Shell CEO Peter Voser explained this law of diminishing returns. Shell had just had to write down the value of its shale assets by $2.1bn dollars because: “[Shale well] decline rates are very high, so after 18 months your production drops very sharply, which means you have a business model of constant investment.”

Given that this is the case, and that returns against investment have never been spectacular and are now negligible, you have to ask how the industry was able to suck in such massive amounts of capital investment.

John Dizard writing in the Financial Times agrees: “What really surprised the industry was the continuing supply of new capital from lenders and return-short investors. This interrupted what would have been a typical oil and gas drilling cutback phase. In other words, yes, there is a big Marcellus effect, but it may turn out to have been superhyped by quantitative easing. We will see what happens if the oil price falls and interest rates ever rise.”\(^8\)

This has been a kind of sub-prime scenario, fuelled with money created by governments through quantitative easing, and seeking a fast return. The result is investors encouraged to over lend to a fragile economic model.

As Andrew Critchlow\(^9\) writing in the Telegraph, explained: “This rush to pump more oil in the US has created a dangerous debt bubble in a notoriously volatile segment of corporate credit markets, which could pose a wider systemic risk in the world’s biggest economy. By encouraging ever more drilling in pursuit of lower oil prices, the US Department of Energy has unleashed a potential economic monster and pitched these heavily debt-laden

---

\(^6\)http://www.gov.scot/About/Performance/scotPerforms/purpose
\(^7\)http://policy-practice.oxfam.org.uk/our-work/poverty-in-the-uk/humankind-index
\(^8\)US shale is a surprisingly unprofitable miracle, Jon Dizard, Financial Times, October 2013.
shale oil drilling companies into an impossible battle for market share against some of the world’s most powerful low-cost producers in the Organisation of Petroleum Exporting Countries (OPEC)."

The net debt of the leading 60 shale companies in January 2016 was $206bn compared to $100bn in 2006. Almost one third of the 155 oil and gas companies covered by ratings agency Standard & Poor are classified as B-minus or below, that is at risk of default. 50 companies have already filed bankruptcy and consultants Deloitte suggest that more than one third of firms are likely to go bust.

The bankruptcies in the US have led to thousands of wells being abandoned, and these continue to leak methane. Between January 2015 and January 2016, 86,000 jobs were lost in the industry and that total continues to rise. All of this suggests that in both economic and social terms, the overall impact of the shale industry in the United States has been

1. Greater economic instability, with the potential for a new debt crisis that could have global reverberations
2. Devastation for communities who have paid a huge cost in environmental destruction and industrialisation of rural areas in return for very short term minor benefits.
3. Devastation for families who have staked their future, including borrowing and mortgages, on this industry and now face unemployment.

We see no reason why the situation should be any different in the UK as a whole, and in Scotland. Therefore in answer to the question that KPMG have asked: How would the extraction of UOG affect Scottish communities and industries? we would say the effect would be entirely negative.

2.2 Who profits?
The estimated costs of constructing and running each individual well is subject to a number of factors offering a range of lifetime costs for each well of between $3.0 million and $8.0 million per well (excluding decommissioning and future monitoring costs).  

Based on these estimates and using the Institute of Directors’ range of estimates for production volume we can therefore attempt to estimate the floor or “break even” gas price required for economic extraction of shale gas in the UK.

The lowest bounds of each of these estimates implies a break even gas price of around $7.50 per thousand cubic feet of gas whilst the upper bound

12 Rural Community Policy Unit, "Shale Gas Rural Economy Impacts", Page 5, 2014
estimates imply a break even price of around $30 per thousand cubic feet of gas. Even the lowest bound lies significantly above the current (as of June 2016) price of $2.30 per thousand cubic feet and the upper bound lies at more than twice the record high gas price set in June 2008 of $13 per thousand cubic feet. (For comparison, the highest bound price for the gas price would be the rough equivalent of the price of oil reaching approximately $180 per barrel).

From this, it can be concluded that both shale oil and shale gas are unlikely to be economically viable in this current low hydrocarbon price environment and even if there is a return to recent higher prices, it is likely that the industry would still require significant subsidy or significant efficiency progression before it could be used at any kind of scale.

This appears to tie in with recent observation of declining shale oil/gas exploitation in the United States and concentration of rigs on the largest producing and easiest to access deposits. It is estimated that around half of all US shale oil wells become uneconomic at oil prices below $60 per barrel\(^\text{13}\) and half of shale gas wells become uneconomic at gas prices below $4.85 per thousand cubic feet.\(^\text{14}\)

What these figures show is that there can be no argument that fracking is going to create a profitable new industry plus ancillary manufacture and supply. The only possible reason for promoting it must be a facilitation of financial speculation. It is more about investment opportunities, short returns and manipulation of credit/debt in the financial sector or between/inside businesses, rather than actual contribution to the energy market or industry. This is an approach to economy that may sit well with the present UK government, but it is not thought the same is true of the Scottish government.

Of course looking at the global fossil fuel price is not entirely germane to the situation in Scotland. INEOS no longer claim that their activities in Scotland would add to energy stability; they admit that the end product here is a feedstock for their plastics industries.

The only possible inducement for the Scottish government to permit INEOS to lead this industry, is the company’s claim that if they are not permitted to go ahead, the lifetime of the Grangemouth plant may be shortened to the length of their current contract for importing shale gas from the United States.

Firstly, there is no evidence whatsoever that this is the case and secondly, whilst the future of Grangemouth is an important consideration, it is not an adequate reason for permitting UOGE, given the resulting negative impacts across the economy as a whole.

\(^{13}\) OPEC, “World Oil Outlook Book”, Page 122, 2012
\(^{14}\) Mearns, “What is the real cost of shale gas”, Oil Voice Magazine, Page 5, Jan 2014
3. THE JOBS QUESTION

3.1 How many jobs, really?

At a public meeting in Cumbernauld in 2015, INEOS were asked how many jobs could be created in Scotland and they stated a figure of 6,400. They then admitted they had arrived at this figure by simply taking 10% of the total UK-wide figure of 64,000 by Ernst & Young for the Institute of Directors (IoD).

The IoD is now using a different figure of 74,000 – does that mean there will be 7,400 jobs in Scotland?

This vagueness relating to actual jobs in shale is replicated in relation to Coal Bed Methane Capture (CBMC). The experience of the Public Inquiry at Falkirk was that the then licence holder Dart Energy was incapable of giving any realistic estimate of jobs potential of its CBM operation at Airth.

The widely quoted IoD report claims that each well pad would create 1,104 jobs; but Cuadrilla has said shale gas production in Lancashire would create a total of just 1,700 jobs in the County as a whole, and that is for one year only – it falls to under 200 just three years afterwards.

Any claims of “indirect jobs” created or “supported” or “induced” by any shale gas developments must be treated with extreme caution, as they may be counting jobs either already created or sustained in the area. In addition they tend not to differentiate between temporary and permanent jobs.

The UK government has a perfectly respectable figure for potential jobs in a report on the potential of shale gas commissioned from AMEC. The Amec report says it could create 16,000 – 32,000 jobs in a high activity scenario but that, in a low activity scenario, 2,500 – 5,000 jobs would be created. This figure has mysteriously disappeared from the government’s discourse.

3.2 What jobs, who for, where?

Before any claim of economic benefit in terms of increased employment opportunities can be made an accurate break down of job roles, locations and length of time of employment is needed. None of that has been forthcoming from the UK government or any of the other widely-quoted studies.

Given this void in the debate, the Broad Alliance offers the following analysis:

In the planning phase the operation is typified either by office based roles such as legal and planning officers or by field roles such as geologists and

---

15 AMEC for DECC, Strategic Environmental Assessment for Further Onshore Oil and Gas Licensing – Environmental Report
engineers. These jobs will be in remote company offices, perhaps not even in the UK (quite apart from in the communities affected by UOGE).

During the drilling phase, field roles such as riggers, welders and surveyors, will last only a few months and certainly less than a year. Some suggest 9.8 fte jobs per well, but teams will move from well to well, drill site to drill site – the concern is that there is a great deal of double or even triple counting going on in these estimates.

It is also highly likely that wells will be constructed in a manner which facilitates remote monitoring, minimises on-site manpower and can be constructed by contract workers. This further distances the local community from the economic benefits of the wells and any jobs that they do create or sustain.

There is much talk of spending in the supply chain, and in Scotland this is a big issue because of the desperate crisis in the North Sea with people tempted to clutch at straws. But the UOGE does not offer any long-term stability; in fact the crisis itself means that the UOGE licence holders will seek to drive their suppliers right down on costs, including numbers of jobs, wages, materials and safety.

There is some scope for jobs during the production phase (Petroleum engineers, Wellhead operators, Site managers) to be semi-permanent in communities surrounding the wells. However given the short lifespan of production it is clear that overall the companies, and their employees, will move on within a few years. The spend in the local economy and with supply companies will be temporary and minimal.

4. NEGATIVE ECONOMIC EFFECTS OF UOGE

4.1 The cost of real regulation

The study Life cycle environmental impacts of UK shale gas\textsuperscript{16} quantifies a range of overall lifecycle impacts of shale gas production in the UK and arrives at very unfavourable comparisons with other energy technologies and concludes that, for three types of impact (depletion of the stratospheric ozone layer, photochemical pollution, and terrestrial eco-toxicity), shale gas is ‘worse’ even than coal as an energy source for generating electricity; furthermore, uncertainties in input data mean that it might also be worse than coal for three additional impacts (on global warming, acidification, and human toxicity). This paper will form part of the Broad Alliance’s environmental case for a ban.

However, in this contribution to the economic impact assessment we want to refer to another inference the report makes, which is that if permitted in the

UK, shale gas development must be subject to stringent environmental regulation, to ensure that it is only developed where it can be demonstrated to regulatory authorities “on a well-by-well basis” that impacts can be minimised.

The implications of “well-by-well” regulation are significant at the levels of intensity required if fracking is to be economic, as all the literature suggests.

In addition to wells, the Scottish Environment Protection Agency (SEPA) would need to monitor emissions of dangerous silica sand into the environment, so-called “fracking haze”; they would have to regulate the waste water management plans that the companies have put in place. They would also need to gather information on condensers, pipelines and other infrastructure.

We would argue that given the risks, the balance of regulation should not be in favour of self reporting by the industry or other tick box exercises. It would be crucial to have continuous field visits and local information gathering, in addition to office based, data-driven monitoring activities. Close liaison with local authorities would also be essential.

SEPA’s current business plan does not include any of this. Therefore we would estimate an increase in costs for SEPA of one third.

For the Scottish government this would mean additional grant-in-aid to SEPA of £12.8m per annum.

But this estimate is based on an assumption that we have made that the UOGE companies would make a parallel contribution that increases SEPA’s fee income by one third (£12.5m)

As we have seen no indication that licence holders would be prepared to pay such fees the whole cost would fall on the public purse - an annual cost of £37.9m per annum.

The onus is on the Scottish government to state the cost to the public purse of careful regulation of UOGE.

4.2 The cost of cleaning up
We would refer the consultants to the Broad Alliance’s statement on the Decommissioning, Site Restoration and Aftercare work stream and in particular its conclusion that:

“There are significant long term economic impacts in financing a robust monitoring regime in perpetuity. The Scottish government and local authorities have already had to invest public funds in dealing with similar problems and in fact the entire history of polluting industries is one of transferring clean up costs from the companies who have profited to the public purse.”
4.3 House prices and insurance
A survey of property professionals undertaken by The Ferret as part of its investigation into fracking in Scotland, revealed that the majority predict a negative impact on house prices.17

John Rafferty, director of Kelvin Valley Properties, a firm which covers Scotland’s central belt, predicted a price fall of up to 10 per cent in any area where fracking gets the go ahead. He said: “It becomes harder to sell a property in those areas and as a result that will have a negative impact, something along the lines of seven per cent, ten per cent, I think that may be fairly realistic. It could be a little bit more than that – I certainly don’t think it would be much less than seven per cent.”

Alyson Lowe, managing director of Alexander Taylor estate agency based in Bonnybridge, near Falkirk, also estimated a 10 per cent price drop. She said the prospect of fracking is already deterring people looking for homes in the Central Belt.

“People are not really sure of what the consequences of that [UGOE wells] being in the perimeter, either under, around, beyond, or close to the property, and then obviously there’s the possible knock-on, or additional health issues as well,” she said. “I have had a few clients who are looking to purchase in areas where fracking is going to be taking place and they have not gone ahead with the purchase for that reason.”

Industrial installations, perceived environmental, health and safety risks, and the influx of haulage that comes with shale gas extraction, are factors likely to impact negatively on the property market, estate agents told the The Ferret.

A study by the US National Bureau of Economic Development18 shows those living within two miles of shale gas wells in the USA can expect house prices to fall by 24 per cent.

The UK government’s draft report on the impact of fracking in rural areas admits that: “Properties located within a 1-5 mile radius of the fracking operation may also incur an additional cost of insurance to cover losses in case of explosion on site.”19

The National Farmers Union journal Farmers Weekly reports concerns of

---

17 https://theferret.scot/fracking-property-prices-scotland/
18 http://www.nber.org/papers/w18390
Malton-based rural insurance broker McClarrons has seen an increase since last summer in inquiries from worried land and property owners in Ryedale, where North Yorkshire County Council recently gave planning approval for fracking at Kirby Misperton.

Chief among their concerns are damage to built property, contamination of groundwater and the potential for damage to land, crops and livestock.

“The danger is that many think their insurer will pay for all losses they suffer and then simply claim the money back from the operator, but it isn’t that simple,” said Becky Ireland, farm account executive at McClarrons.

“Most insurers do not recognise fracking as an ‘insured peril’ under a farm combined or similar policy, as opposed to traditional standard perils such as fire, theft or flood. Damage caused by earthquake and subsidence are generally covered under buildings insurance and if fracking led to these insured events, a claim would likely succeed. However, unlike home insurance, commercial buildings often do not have subsidence included as standard and cover may need to be added as an optional extra.

“Commercial property insurance wordings vary considerably and similar issues may arise in relation to damage occurring to land, for example contamination or damage to crops.”

Most home and commercial property insurance policies also exclude losses arising from pollution or contamination. Environmental liability policies also vary, with some excluding losses caused by fracking, said Miss Ireland.

Clean-up costs normally fall to the polluter but proving the source of the pollution may be difficult and costly, especially as it may occur over a long timescale and the polluter may no longer be in business or may not be worth pursuing financially.

Farmers and landowners need to review their cover and should consider cover for legal costs to pursue a damages claim and to deal with any environmental investigations should a loss occur, said Miss Ireland.

The Infrastructure Act 2015 gave landowners protection from liability for third party claims for loss or damage arising from fracking, for example where neighbours or their property suffer damage.

\(^{20}\) http://www.fwi.co.uk/business/insurance-unlikely-to-cover-fracking-damage-farmers.warned.htm
4.4 Impact on other business
The Government review of potential impacts on the rural environment says the evidence reviewed shows: “There will also be sectors that gain from the expansion of drilling activity but others that may lose business due to increased congestion or perceptions about the region. These behavioural responses may reduce the number of visitors and tourists to the rural area, with an associated reduction in spend in the local tourism economy.”

Potential tenants of business parks close to proposed well pads, will have concerns about increases in insurance costs, pollution and disruption. Levels of vacancies in business parks that may have enjoyed significant public subsidies in terms of cheap land, infrastructure and services, will rise.

There will be pressure to shift infrastructure investment to support this new industry; for example road capacity plans will need to be changed to support the massive increase in truck traffic in rural areas.

Adjacent to and near areas of active UOGE, it will be increasingly difficult to attract new industries, housing and tourism undermining local authorities’ plans for future.

Any cash payments offered by the industry to local authorities will be sucked into paying for a range of measures to try to mitigate the impact of the industry.

4.5 Additional costs to the NHS
We would refer to the Broad Alliance’s submission to the work strand looking at the impact on public health. The negative effects on health of UOGE would clearly lead to additional costs to the NHS. Any serious economic impact study must attempt to quantify those costs.

5. ECONOMIC BENEFITS OF A BAN ON UOGE

5.1 Communities can work on a better way forward
Scotland’s local authorities were not sitting around waiting for a new fossil fuel industry to come along. Many of the areas that will be impacted by UOGE are still struggling to overcome the negative impact of the previous fossil fuel extraction industries on their economic development (See Broad Alliance contribution to Decommissioning, Site Restoration and Aftercare and refer to the Scottish Vacant and Derelict land survey 2014).

These areas have forward-looking economic plans that do not include a further round of extractive industry. Broadly these are founded on the development of clean manufacturing, technological innovation, commercial and service industries, including food, support for agriculture and tourism.
As an example, here is Falkirk District’s view of where it wants to be in 2034\textsuperscript{21}

The area will have a dynamic, diverse, low carbon economy and there will be less out-commuting. There will still be a strong manufacturing base, with Grangemouth in particular having adapted to the new low carbon technologies and markets and Falkirk will have established itself as one of the main logistics and distribution hubs in Scotland as well as a key office location.

Strategic business sites… will be well underway supporting a wide range of new service and manufacturing businesses. The area will be prime destination for day and short-break visitors drawn by an attractive and accessible network of heritage, cultural and outdoor activities. The canals will be a particularly vibrant corridor, animated by a series of development nodes along their length and greater use of the waterspace.

This is West Lothian’s vision:

By 2024 West Lothian’s population will have grown and an improved employment position within a more diversified local economy will have been established. …Development will take place in a way that is sustainable, meeting the challenges of climate change and renewable energy, and sensitive to the area’s many built and natural heritage assets. At the same time development will be used as a vehicle to help regenerate communities and for improving the quality of life for all living in West Lothian.

East Dunbartonshire’s economic strategy has 3 objectives:

to support a diverse business base and in particular small business which has been a crucial driver for growth in the county; to support the development, diversification and growth of the town and village centres within East Dunbartonshire and capitalise on the area’s tourist, leisure and natural attraction and thirdly, to ensure that the key enablers of the economy are in place to support business to aid economic recovery and growth and economic prosperity providing access to employment opportunities. This last is about working with partners to support growth of business and social enterprise, investment in economic infrastructure and supporting skills training.

The development of UOGE has no place in any of these plans and would be detrimental to achieving them. It does not form part of the confident vision that local authorities, and their partners, have proposed. These local plans enjoy the support of the Scottish government.

By supporting UOGE, the Scottish government would be suggesting these plans are flawed, that they have no confidence in this vision, and instead we

\textsuperscript{21} \url{http://falkirk.maps.arcgis.com/apps/MapSeries/index.html?appid=cc51c4382f9741edeb9d8d7b3ad28c77b}
should shift focus on to a new extractive industry. Because permitting an entirely new and intensive fossil fuel industry must inevitably impact on and distort the vision of the future and the plans of both local and national government.

5.2 Global energy transformation
A transformation is taking place in the global energy market. A new report from 22 (May 2016) highlights a surge in investment in renewable energy creating 147 gigawatts of capacity in 2015. Over 8 million people worldwide are now working in renewable energy. Investments in renewables during the year were more than double the amount spent on new coal and gas-fired power plants, according to the Renewables Global Status Report.23 For a number of years, the global spend on renewables has been increasing and 2015 brought a new peak.

The falling cost of renewables has been key to this change and those companies and countries that invested in R&D, and manufacture, are benefiting.

Companies and countries that want to be in the forefront of future technology are looking at this change. For example Denmark (which on one day this year achieved 140% of its electricity needs from renewables) has adopted a new strategy which will make large investments up to 2020 in energy efficiency, renewable energy and the energy system (smart grid).

By 2020 approximately 50% of electricity consumption will be supplied by wind power, and more than 35% of final energy consumption supplied from renewable energy sources.

German energy giant E.ON has announced it is splitting off its assets in fossil fuel and nuclear from its work on renewables to create a whole new company with greater investment and focus. CEO Johannes Teysen explained: “We are convinced that it’s necessary to respond to dramatically altered global energy markets, technical innovation, and more diverse customer expectations with a bold new beginning.”

5.3 Scotland’s transition
The Scottish government has established the Transition to a Low Carbon Economy as a priority in its Economic Strategy.24 This stresses the opportunity to secure investment and jobs from this growing sector and ensure that the benefits of this transformational change are shared across the economy and communities.

22 REN21 is an international non-profit association and is based at the United Nations Environment Programme (UNEP) in Paris, France. REN21’s network structure is made up of the following agents: – the General Assembly – the Steering Committee – the Bureau – the Secretariat
24 http://www.gov.scot/Topics/archive/economicstrategy/LowCarbon
There is a strategic commitment to shift North Sea activity out of oil and gas, as these dwindle, and into wind and tidal.

Actions include a £70 million National Renewables Infrastructure Fund to “help leverage private sector investment to develop the infrastructure across the country to support offshore renewables and ensure that Scotland becomes Europe’s green energy powerhouse”.

The aim is to position Scotland as “a world leader in low carbon activities - a sector which, with the right incentives, could support 130,000 jobs by 2020.” This is a significantly higher estimate of job creation and sustainable economic activity than is being offered by the shale industry. It is a forward-looking solution to the current crisis in the North Sea oil extraction industry.

There is also a commitment to improve the energy efficiency of Scotland’s housing stock, another potential area for the creation of new firms and new jobs.

The Scottish Government approach emphasises the benefits of community ownership, localism, energy efficiency and accessibility of resources and information. It also recognises the profound social changes and opportunities that addressing issues of sustainable energy and infrastructure bring forth, including addressing fuel poverty and the potential to have energy policies that make this technology into a democratising and enfranchising force.

The Community & Renewable Energy Scheme\(^\text{25}\) states that community ownership of renewable energy has multiple benefits, including revenues going into communities which can be spent for their benefit.

This is suggests a very positive future for Scotland’s energy sector, in combining technology with the appropriate locations and allowing communities to lead projects and be given a voice throughout commercial developments, to ensure the best deal for communities. This is also a holistic plan to tackle greenhouse gas emissions at both the ‘supply’ and ‘demand’ ends of the chain, with exciting plans for decarbonising in transport and heating. The corporate-led profit-driven development of UOGE has no place in this strategy.

UOGE will lead to an inevitable shift in infrastructure investment, policy focus and other government support, moving our future in a different direction.

Sticking with the current de-carbonisation plan, and investing in it and communities’ part in it, can put Scotland at the front of the curve that is

currently transforming global energy economics. UOGE is a backward-looking diversion, which we simply should not take.

This paper is submitted by the Broad Alliance, and we reserve the right to make any additional comments and revisions as new evidence becomes available to us.