

Business and Regulatory Impact Assessment (BRIA)

Policy on the development of onshore unconventional oil and gas in Scotland

September 2019

Business and Regulatory Impact Assessment

Title of Proposal

Policy on the development of onshore unconventional oil and gas in Scotland

Purpose and intended effect

This Business and Regulatory Impact Assessment (BRIA) of the development of unconventional oil and gas policy in Scotland forms an element of the Government's policy-making process in determining the role of onshore unconventional oil and gas in Scotland's energy mix.

The BRIA is part of a suite of evidence, including independent research, statutory assessments, and public consultation, which have been considered by Scottish Ministers in finalising their policy on unconventional oil and gas.

The Minister for Business, Innovation and Energy set out, via parliamentary statement on 03 October 2017, that the Scottish Government's preferred policy position was, subject to statutory and other assessments, that it does not support the development of unconventional oil and gas in Scotland.

A Strategic Environmental Assessment (SEA) Environmental Report on the Scottish Government's preferred policy position was published in October 2018, alongside the preferred policy position statement (updated to reflect the devolution of onshore oil and gas licensing which occurred in February 2018) and a partial BRIA. Views were invited on the contents of these documents during an eight-week consultation from October to December 2018.

The responses received to the 2018 statutory assessments consultation led the Scottish Government to form the view that it would be helpful to provide some further clarification on a number of points raised in response to the consultation documents, specifically regarding the preferred policy position and its objectives. On 30 April 2019, the Scottish Government published an addendum to the SEA Environmental Report, the preferred policy position statement and the partial BRIA, and invited further comments on the points covered over an eight-week period.

Responses to the 2017 Talking "Fracking" consultation¹, 2018 consultation, and 2019 addendum consultation have all been considered by Scottish Ministers as part of the finalisation of unconventional oil and gas policy in Scotland.

Background

Scotland's Energy Strategy and Climate Change

Scotland's Energy Strategy (published 20 December 2017) sets out a vision for the future of energy in Scotland. It will guide the decisions that the Scottish Government, working with partner organisations, needs to make over the coming decades and support work already underway to achieve Scotland's long term climate change targets and transition to a low carbon economy.

¹ <https://consult.gov.scot/energy-and-climate-change-directorate/fracking-unconventional-oil-and-gas/>

Action to mitigate climate change is a key component of the Scottish Government's aim to create a growing, sustainable and inclusive economy.

The Intergovernmental Panel on Climate Change (IPCC) report on global warming, published shortly after the SEA Environmental Report itself was published, makes clear that all countries, as well as businesses and individuals, need to act now if the Paris Agreement goals are to be met. The IPCC report says the world needs to be carbon-neutral, defined as net-zero emissions of carbon dioxide, by 2050.

The First Minister declared a global climate emergency at the end of April 2019 and in May the UK Committee on Climate Change (CCC) advised that Scotland could achieve net-zero emissions of all greenhouse gases by 2045, and the UK by 2050.

The Parliament's Environment, Climate Change and Land Reform Committee voted in June 2019 to accept the Government's amendments to the Climate Change Bill to increase Scotland's targets in line with the CCC's advice. The UK Government introduced secondary legislation setting a net zero target for 2050.

In response to the global climate emergency, Scottish Ministers' high ambition will be matched by on-the-ground delivery. The Climate Change Plan will be updated, looking across Scottish Government responsibilities to make sure the policies that are working are continued, areas where more can be done faster are identified.

The Scottish Energy Strategy sits alongside our Climate Change Plan 2018-2032, which sets out how we will continue to drive down emissions over the period to 2032 and the Climate Change Plan is due to be updated in 2020. One of the three key aims of the Energy Strategy is a stable energy transition towards renewable energies and the priority moving towards 2050 of championing Scotland's renewable and low carbon energy potential, creating new jobs and supply chain opportunities.

The Strategy acknowledges the important role of gas in the inclusive transition to a low carbon energy future. The Strategy also reflects the conclusion of the independent Committee on Climate Change report on Unconventional Oil and Gas (2016) that the high level of ambition embodied in the (then) Scottish emissions reduction targets means that finding additional emissions reductions from elsewhere in the Scottish economy to accommodate even moderate additional emissions from unconventional oil and gas production or other sources would be challenging. The current, more stringent overall emissions reduction targets pull this advice into even sharper focus.

Unconventional Oil and Gas

Unconventional oil and gas can contribute to the provision of natural gas for energy or energy production and natural gas liquids as a raw material for the petrochemical industry.

The term 'unconventional' in unconventional oil and gas refers to the types of geology in which the oil and natural gas are found. For the purpose of this BRIA, unconventional oil and gas is understood to include:

- Gas extracted from onshore shale sources using hydraulic fracturing (commonly known as 'fracking');

- Associated liquids extracted from onshore shale sources using hydraulic fracturing; and,
- Coal bed methane (CBM).

Most of Scotland's unconventional oil and gas deposits occur in and around former coalfields and oil shale fields in Scotland's Central Belt which contains some of the most densely populated areas of the country, as well as in areas in South East Scotland.

Unconventional Oil and Gas – Policy Development Process

The Scottish Government has taken a cautious, evidence-led approach to considering onshore unconventional oil and gas in Scotland. This included the establishment of an Independent Expert Scientific Panel ('the Expert Panel') to examine the evidence on unconventional oil and gas, including hydraulic fracturing and coal bed methane extraction.

Following the publication of the Expert Panel's report², in January 2015 the Scottish Government announced a moratorium on onshore unconventional oil and gas development in Scotland. The moratorium created space to explore specific issues and evidential gaps identified by the Expert Panel, and undertake full public consultation. A series of independent research studies³ were commissioned covering issues such as climate, seismic activity, transport, health impacts and economic impacts, and a public consultation, which received over 60,000 responses, was held from January to May 2017.

On 24 October 2017, the Scottish Parliament voted in favour of the Scottish Government's preferred policy position of not supporting onshore unconventional oil and gas development in Scotland.

The Scottish Government was statutorily required to undertake a SEA ahead of finalising the policy on unconventional oil and gas. In addition, a BRIA was also undertaken. An addendum to these documents, and the preferred policy position, was published in April 2019, and consulted on over an eight-week period.

Following careful consideration of both the statutory and other assessments and consultation responses to them and all the previous evidence the Scottish Government has assembled, Scottish Ministers have concluded that an unconventional oil and gas industry would not be of sufficient positive benefit to Scotland at this time. **Therefore, based on current evidence and social acceptability, the Scottish Government has agreed that its finalised policy position is of no support for unconventional oil and gas development in Scotland. This means development connected to the onshore exploration, appraisal or production of coal bed methane or shale oil or shale gas using unconventional oil and gas extraction techniques, including hydraulic fracturing and dewatering for coal bed methane.**

The adopted policy will also be reflected in the draft of the next iteration of the National Planning Framework (NPF4). This draft is expected in the parliamentary

² <https://www.gov.scot/Publications/2014/07/1758>

³ <https://www.gov.scot/Topics/Business-Industry/Energy/onshoreoilandgas/EvidenceGathering>

session 2020/21. When they come into force, the provisions of the Planning (Scotland) Act 2019 will mean that Ministers cannot adopt the National Planning Framework unless Parliament have approved it – a significant change from previous iterations.

In addition to the policy of no support for unconventional oil and gas being a material consideration for planning decisions, Scottish Ministers will discharge their devolved licensing powers having regard to the adopted policy position of no support for unconventional oil and gas in Scotland.

Objective

This BRIA sets out considerations regarding the potential impacts of the proposals for Scotland's unconventional oil and gas policy on businesses and other organisations.

The information in this BRIA is drawn from the existing evidence base and references the relevant documents where appropriate: specifically the suite of research on unconventional oil and gas commissioned by the Scottish Government and the responses to the public consultation, Talking "Fracking". It also includes views from both internal and external stakeholders received as part of the consultation on the partial BRIA in late 2018, and the consultation on the addendum to the statutory and other assessments in 2019.

In reviewing the research findings, the Scottish Government has identified particular concerns over the insufficiency of epidemiological evidence on health impacts highlighted by Health Protection Scotland.

The compatibility of an unconventional oil and gas industry with Scotland's world leading climate change targets is an area of further concern.

The study commissioned by the Scottish Government to examine climate change implications, which was undertaken by the Committee on Climate Change, concluded that unconventional oil and gas extraction in Scotland would make meeting our existing climate change targets more challenging.

As the Committee states in their report, in order to be compatible with Scottish climate change targets, emissions from production of unconventional oil and gas would require to be offset through reductions in emissions elsewhere in the Scottish economy.

The Scottish Government is also aware that the potential activity associated with an unconventional oil and gas industry would be likely concentrated in and around former coalfields and oil shale fields in the Central Belt of Scotland, which are among the most densely populated parts of the country.

It is clear from our consultation, Talking "Fracking", that communities across Scotland, particularly in areas where developments could take place, have yet to be convinced there is a strong enough case of national economic importance, when balanced against the risk and disruption they anticipate on matters such as transport impacts, risks of pollution, and on their general health and wellbeing.

Although the Scottish Government is confident that an unconventional oil and gas industry would aim to work to the highest environmental, and health and safety

standards, it is also our responsibility as a government to make a decision we believe is the best for the people of this country.

The Scottish Government considers the development of an onshore unconventional oil and gas industry in Scotland would make achieving our energy and climate change commitments more challenging. Whilst acknowledging the important role of gas in the transition to a low carbon energy future, Scotland is a net exporter of natural gas and the addition of an onshore unconventional oil and gas industry would not promote our ability to meet our greenhouse gas emissions targets or objectives in relation to protecting and enhancing the environment.

Rationale for Government intervention

Powers over onshore oil and gas licensing were devolved to Scottish Ministers in February 2018. These include the granting and regulation of licences to search and bore for and get petroleum (including unconventional oil and gas) within the Scottish onshore area.

The powers were recommended for devolution by the Smith Commission in November 2014, and devolved as part of the Scotland Act 2016. As a result, Ministers acknowledged the need to arrive at a policy position regarding onshore unconventional oil and gas in Scotland.

In previous years, the UK Government issued Petroleum Exploration and Development Licences (PEDLs) in Scotland. There are currently three PEDLs held in Scotland, two of which are held by companies with the intention of targeting unconventional oil and gas.

Consultation

The consultation on the business and regulatory impacts of the development of unconventional oil and gas policy undertaken between October – December 2018 was a key step in the cautious, evidence-led approach adopted by the Scottish Government in considering onshore unconventional oil and gas in Scotland. Previous work included research commissioned by the Scottish Government and the 2017 public consultation, Talking “Fracking”, which received 60,535 responses. Approximately 99% of respondents who expressed a view were opposed to fracking.

A SEA Environmental Report of the Scottish Government’s preferred policy position was published in October 2018, alongside the updated preferred policy position statement and a partial BRIA. Views were invited on the contents of these documents during an eight-week consultation in late 2018.

As part of the commitment to transparency and dialogue on this important issue, Scottish Government officials undertook a workshop with oil and gas industry members and regulators to engage on the contents of the partial BRIA, and feed back views which have helped shape the final BRIA.

The responses received to the recent consultation on the SEA, partial BRIA, and updated preferred policy position statement led the Scottish Government to form the view that it would be helpful to provide some further clarification on a number of points raised in response to the consultation documents. To address this matter, the Scottish Government published an addendum to the 2018 consultation documents in

April 2019, and invited further comments on the points covered over an eight week period, in line with the 2018 consultation period.

Along with previous work undertaken by the Scottish Government, the responses received to the 2018 consultation, and the consultation on the addendum, have been taken into account and are reflected in this final BRIA.

Within Government

The Scottish Government has consulted the following internal departments in the development of the proposals contained in this BRIA: Directorate for Economic Development; Directorate for Legal Services (Solicitor to the Scottish Government); Directorate for Energy and Climate Change; Directorate for Local Government and Communities; Directorate for Chief Economist; and Directorate for Justice.

In addition, the Scottish Government has consulted the Scottish Environment Protection Agency (SEPA), the Health and Safety Executive (HSE) and the Coal Authority on the potential impact of the proposals. Their respective comments are reflected in the costs and benefits section of this BRIA.

Public Consultation

The Scottish Government's finalised policy position has been subject to the outcome of a SEA. The 2018 SEA Environmental Report provided an assessment of the likely significant environmental effects of the preferred policy position and 'reasonable alternatives' to it. The Scottish Government's preferred position as assessed was that it does not support the development of unconventional oil and gas in Scotland. This is on the basis that the development of an unconventional oil and gas industry in Scotland would make achieving its ambitious energy and climate change commitments even more challenging. Whilst acknowledging the important role of gas in the transition to a low carbon energy future, the addition of an onshore unconventional oil and gas industry would not promote our ability to meet our greenhouse gas emissions targets or objectives in relation to protecting and enhancing the environment.

It is recognised that some may regard the development of the industry, subject to the relevant licensing and permitting regimes, as alternatives to the preferred policy position. These alternatives were described in the SEA Environmental Report as:

- 'business as usual';
- pilot project.

As set out in the 2019 addendum to the 2018 consultation, Ministers consider there is in effect no option that is a 'reasonable alternative' to the preferred policy position. Ministers consider it clear that, measured against the stated policy objectives, neither the 'Business As Usual' nor the 'Pilot Project' alternative can reasonably be expected to achieve either the positive environmental or social outcomes offered by the preferred policy position.

That notwithstanding, the Scottish Government does consider it useful that the SEA Environmental Report assesses in particular the 'Business As Usual' scenario, which provides a benchmark against which to measure the likely environmental effects of the preferred policy position.

For completeness, all three scenarios are considered in this BRIA.

Views were invited on the SEA Environmental Report and the preferred policy position statement for a period of eight weeks on the Scottish Government's online consultation platform, Citizen Space, from October – December 2018, during which time we also welcomed views on the issues and options considered in the partial BRIA.

Responses were invited to the following question: What are your views on the opportunities and challenges that each of the options could have for businesses?

Business

The Scottish Government held a workshop during the consultation period in November 2018 with oil and gas businesses and regulators:

- UKOOG
- INEOS
- DLA Piper
- SEPA
- Schlumberger
- Kingdom Oil and Gas Ltd
- Reach CSG Ltd

Options

The options outlined below appear as they did in the partial BRIA, and should therefore be read in that context.

Option 1 - Preferred Policy Position

The Scottish Government's preferred position is that it does not support the development of unconventional oil and gas in Scotland.

In the event the preferred position is adopted, the policy on unconventional oil and gas would be implemented using the Scottish Government's fully devolved planning powers to establish robust and effective controls.

This approach ensures decisions on onshore unconventional oil and gas developments would be made in line with planning policy and procedure, and within the framework of Scottish Government policy – a policy that does not support unconventional oil and gas extraction in Scotland.

In the event our preferred policy position is adopted, in addition to the policy being a material consideration within planning policy, Scottish Ministers would discharge the licensing powers devolved in February 2018 having regard to that adopted policy position.

Option 2 – Business as usual

Under the 'Business As Usual' scenario there is no moratorium on unconventional oil and gas development, and planning applications would be brought forward and

determined in accordance with the current applicable development plan, the National Planning Framework (NPF) and all material considerations, but in the absence of the preferred policy position.

Scottish Ministers would also exercise their newly devolved powers in relation to onshore oil and gas licensing in Scotland to consider the timing of future onshore licensing rounds.

For the purposes of the assessment, the 2018 SEA Environmental Report assessed the effects of unconventional oil and gas development avoided under the preferred policy position, and compared this to the effects of the development of an industry as represented by a 'broad range of impact scenario' based on the KPMG (2016) development scenarios of 'a) central, b) low and c) high levels of exploration, appraisal and extraction of onshore unconventional oil and gas', as well as to the development of a single theoretical pilot project.

Option 3 – Pilot Project

The 2018 SEA Environmental Report assessed an alternative development scenario, based on a single theoretical unconventional oil and gas pilot project. This concerned the development of a single pilot project in one of three locations within the Midland Valley and within a PEDL area where resource has been identified. The purpose of a theoretical pilot project would be to increase the understanding of the extent of the potential resource, and impacts associated with its extraction. The theoretical pilot project was based on a number of assumptions including that it would have research and geoscience as its key driver, and be required to be delivered in collaboration with an independent research body or an academic institution and demonstrate whole lifespan of development (exploration, appraisal, production, and decommissioning) over approximately 10 years. It was unspecified whether the theoretical pilot project would be located in a rural or semi-urban or urban fringe geographical location.

For the purposes of the assessment, a theoretical pilot project was assumed to be one pad with multiple wells. The number of wells was not defined, however, it was assumed that more wells would result in greater impacts.

Sectors and groups affected

Unconventional oil and gas developers and related supporting industries

Current holders of a PEDL in Scotland with the aim of targeting unconventional oil and gas are unable to proceed until the Scottish Government policy-making process is completed. This has implications for the supply chain in relation to skills, equipment and services required to support the proposed exploration and development activities.

Companies interested in developing and producing unconventional oil and gas in Scotland are unable to pursue development plans until the Scottish Government policy-making process is completed.

Scottish Government

Scotland's Energy Strategy reiterates the Scottish Government's preferred policy position of no support for unconventional oil and gas. This is subject to the necessary statutory and other assessments, which have now been completed.

Other regulatory bodies (such as SEPA, HSE, and planning authorities):

The Scottish Government's unconventional oil and gas policy may have an impact on the workload of these authorities in respect of their regulatory responsibilities.

Landowners, such as the Coal Authority:

The Scottish Government's unconventional oil and gas policy may result in interest amongst unconventional oil and gas developers in the exploration of land in Scotland's Midland Valley⁴.

Community organisations and anti-fracking campaigners:

The development of the Scottish Government's unconventional oil and gas policy is an important issue for the people of Scotland, particularly those communities living in areas most likely to be affected by any potential unconventional oil and gas activity. The conclusion of the unconventional oil and gas policy-making process is awaited with considerable interest by a number of communities and organisations, with deeply held and sincere views found on both sides of this debate.

Benefits and costs

Very few studies examining the potential impact of unconventional oil and gas on Scotland's economy have been conducted. To gain a better understanding of the potential economic implications in Scotland, the Scottish Government commissioned KPMG to examine the impact that unconventional oil and gas could have on jobs and the wider Scottish economy under a range of potential production scenarios. The findings⁵ were published in 2016 and were an integral part of the Talking "Fracking" consultation in 2017.

Option 1 – preferred policy position

Benefits

Partial BRIA Statements

- 1) Conclusion of the unconventional oil and gas policy-making process would provide certainty to interested parties, including oil and industry stakeholders and members of communities living in areas of Scotland where shale oil and gas and CBM have been identified.
- 2) Similarly, certainty about the future of unconventional oil and gas developments in Scotland means developers, including current PEDL holders, could make future business planning decisions.
- 3) Current holders of PEDLs in Scotland may consider changing the hydrocarbon resource they wish to target, with the agreement of Scottish Ministers as licensing authority, allowing them to continue to take advantage of their investment to date in the licence. The choices made by individual PEDL holders will have implications for those businesses providing the skills, equipment and services required to support any future activities, whether it be exploration of another resource or decommissioning of existing sites.

⁴ <https://www.gov.scot/Publications/2016/11/5969>

⁵ <https://www.gov.scot/Publications/2016/11/9393>

4) A policy of no support for unconventional oil and gas in Scotland may result in an increase in the attractiveness of investment opportunities in Scotland for some sectors.

5) Relevant public bodies will be able to finalise hydrocarbon related policies and strategies, such as local development plans, while relevant regulatory authorities will be able to finalise processes for dealing with hydrocarbon related applications.

Stakeholder Responses

1) The predominant view, expressed by a range of organisations and most individual respondents, supported this statement.

2) Oil and gas industry stakeholders noted that the conclusion of the policy development process with the adoption of the preferred policy would not provide clarity, as they consider this to equal a ban on UOG development. This is considered by oil and gas industry respondents to be legally challengeable, which would create further uncertainty.

3) Oil and gas business and industry respondents argued that this option was unrealistic as a business opportunity, highlighting the lack of evidence on the presence of other hydrocarbon resources that could be exploited on a commercial basis in the geographic areas covered, as well as the lack of clear government policy in this area.

Other respondents did not think it was appropriate to include this as a potential 'opportunity', given the Scottish Government's stated commitment to a low-carbon economy.

4) Again, the predominant view expressed by a range of organisations and most individual respondents supported this statement, noting this would likely create opportunities for the development of other businesses – including those related to the renewable energy and low carbon technology sectors, and those that made use of Scotland's natural environment, e.g. tourism, farming and the food and drink industry. It was thought that opportunities for other businesses would compensate for any lost opportunity in the onshore oil and gas sector.

However, oil and gas industry members responded on this point that "whatever sectors those might be, it is unlikely that the list would include the energy sector."

5) Regulatory authorities agreed with this point in their consultation responses.

Costs

Partial BRIA Statements

1) As indicated at the start of this section, the Scottish Government commissioned KPMG to examine the impact that unconventional oil and gas could have on jobs and the wider Scottish economy under a range of potential production scenarios (each of which is outlined in the SEA Environmental Report which accompanied the partial BRIA). In KPMG's central scenario, the study estimates that:

- the total, cumulative industry expenditure in Scotland would be £2.2 billion through to 2062.
- this would add £1.2 billion to Scotland's economy over this period, which is approximately equivalent to 0.1% of Scottish GDP – a measure of Scotland's economic output – per year over the lifetime of the industry.
- the industry would support 1,400 jobs in Scotland at its peak. This includes indirect jobs in the supply chain and jobs created in other sectors of the economy, for instance hotel and taxi businesses.
- the cumulative, additional tax receipts (for the UK and not including coal bed methane) would be £1.4 billion on the development of unconventional oil and gas through to 2062.

2) Turning to those businesses which received a PEDL from the UK Government in previous years and have undertaken limited unconventional oil and gas exploration to date, this investment may not yield any returns unless planning permission is received for any future proposed activities on the site.

Should a current licence holder conclude they wish to surrender their licence, the licence holder will be liable for the decommissioning and aftercare costs in relation to the work which has been undertaken and the infrastructure installed.

3) The value of the investment and the related decommissioning and aftercare costs will vary from development to development and will depend on the conditions set by the various regulatory authorities and other public bodies in respect of consents, licences, and access agreements provided. The lack of available evidence in relation to decommissioning costs makes quantifying the relevant sums challenging. Licensees responding to the 2018 consultation advised that they have assessed the cost to decommission all the associated wells in one PEDL to be in the region of £32 million.

4) In addition, the fees and annual charges due in respect of some licences and consents held, will be lost to the relevant public body.

5) SEPA is the principal environmental regulator for onshore oil and gas in Scotland. SEPA has no specific budget set aside for the monitoring and regulating of onshore unconventional oil and gas as this is built into the licence fees for the various authorisations. SEPA has advised that no significant loss of income in respect of these fees is anticipated and no significant resource implications under this option.

6) Any activity which intersects, disturbs or enters coal seams requires prior written authorisation from the Coal Authority. The Coal Authority has advised that due to the infrequency of the granting of relevant access agreements, the potential loss of related fees and annual charges would be insignificant under this option.

7) The HSE has advised that it charges £173 per hour for its work but not all HSE work in relation to its responsibilities in respect of oil and gas developments is cost-recovered. Income from planning applications does not currently meet the costs of delivering development management services. As a result, this option would result in no additional costs to the HSE or planning authorities.

8) In the case of Scottish Ministers, as the onshore oil and gas licensing authority, to date no annual land rental charges (set by the UK Government) have been payable to the Scottish Government in respect of those licences which have been unable to

progress due to the moratorium on unconventional oil and gas developments in Scotland. Therefore there would be no loss to the Scottish Government in respect of land rental income.

Stakeholder Responses

1) Business and industry respondents argued that the adoption of the preferred policy position would bring about the effective shutdown of the onshore industry in Scotland, and would have wider economic repercussions in terms of reputational cost for Scotland regarding its commitment to science and technology, and its ability to attract investment in this sector. Moreover, they did not think that option 1 would lead to investment in other sectors.

They also noted a range of issues which they considered had not been properly accounted for under option 1 in the partial BRIA:

- (i) the cost (environmental as well as economic) of importing gas and feedstock to replace that which have might have been sourced in Scotland;
- (ii) the cost to the chemical industry of importing feedstock;
- (iii) the lost opportunity for supply chain investment;
- (iv) the potential (negative) impact on the deep geothermal heat industry.

2) Some consultation respondents provided the view that decommissioning obligations should be enforced against operators where licences either expired or were surrendered.

3) Oil and gas business and industry respondents argued that such costs should be met by the public purse, with compensation paid to operators who had invested in PEDLs in good faith.

Option 2 – business as usual

Benefits

Partial BRIA Statements

1) Implementation of this policy option will allow unconventional oil and gas developers to plan exploration, development and production activities in Scotland, subject to receipt of relevant licences and consents. Those current PEDL holders who have been unable to progress work under their licence due to the unconventional oil and gas moratorium will be able to plan the recommencement of activities, subject to receipt of relevant licences and consents. The potential evolution of the unconventional oil and gas industry under this option, will also have implications for those businesses providing the skills, equipment and services required to support the proposed future activities.

2) In the case of regulatory authorities and landowners, this option will result in a return to the well-established pre-moratorium processes and systems.

3) As indicated in Option 1 Costs, the Scottish Government commissioned KPMG to examine the impact that unconventional oil and gas could have on jobs and the wider Scottish economy under a range of potential production scenarios.

4) The economic impact study also highlights that natural gas liquids produced from shale reserves can be an important feedstock (a raw material to supply or fuel an industrial process) in manufacturing industries. The commissioned research also highlighted the potential for domestically produced unconventional oil and gas to have a positive impact for manufacturing companies which use it as a feedstock, should import substitution lead to lower costs of their primary input through avoiding importing and transportation costs, but did not quantify these potential impacts given the uncertainties.

5) In Scotland there are 150 manufacturing companies involved in the manufacture of chemicals and chemical products supporting around 3,500 direct jobs. These companies are involved in the manufacture of primary chemicals, chemical products for industrial applications, pharmaceuticals, and plastic manufacturing. The chemical sciences industry is estimated to support a direct employment of 9,000 in Scotland and around 70,000 people are employed in dependent services.

6) There is also uncertainty regarding the impacts of a new supply of unconventional oil and gas on the wider energy market. However, the Scottish Government commissioned research identified that the relative small scale of potential Scottish production relative to the scale of US production and a highly interconnected European market would likely mean there was no impact on domestic or global energy prices.

Stakeholder Responses

1) One oil and gas industry respondent commented in response to the 2019 addendum consultation that the Scottish Government has awarded offshore oil and gas licences in the Scottish 'inshore area' as part of the OGA 31st Offshore Licensing Round. These licences were, in fact, awarded by the UK Government, as offshore licensing powers have not been devolved to the Scottish Government. They are not subject to the preferred or finalised policy position, which applies only to onshore unconventional oil and gas development.

3) Under Option 2, oil and gas business and industry respondents noted that the assessment of financial benefits needed to be revisited in order to take account of (i) recent increases in the price of gas, and (ii) benefits that would accrue on a UK-wide basis.

5) Oil and gas business and industry respondents considered that the partial BRIA underestimated the benefit to other industries and the wider economy, while the majority of other respondents considered that Option 2 did not take full account of the negative impacts that development of an unconventional oil and gas industry would have on other businesses and economic sectors.

6) Oil and gas business and industry respondents considered that this underestimated benefits offered to the country by self-sufficiency in gas.

Costs

Partial BRIA Statements

1) The findings of the Scottish Government commissioned Economic Impact Assessment included observations by KPMG that exploration work would be required to determine the commercial feasibility and production potential of Scotland's resources.

2) In order to progress unconventional oil and gas exploration, development and production, relevant consents, licences and access agreements will be required, which will have related fees and annual charges. Securing all the necessary consents and licences may prove difficult in the event of opposition to the plans from local communities (detail on views expressed through the Talking "Fracking" consultation is available on the consultation analysis report)⁶.

3) In 2016, the Scottish Government commissioned the British Geological Survey to undertake a research study⁷ into understanding and monitoring induced seismic activity. The study concludes that the risk of felt earthquakes from unconventional oil and gas developments is low. In addition, the study notes that improved understanding of the hazard from induced earthquakes and the successful implementation of regulatory measures to mitigate the risk of induced seismicity is likely to require industrial data from hydraulic fracturing operations, seismic, geological and geophysical data.

4) The Committee on Climate Change was asked by the Scottish Government to examine the impacts of extraction of unconventional oil and gas on greenhouse gas emissions and climate targets⁸. The Committee found that additional production emissions from shale wells would need to be offset through reductions elsewhere in the Scottish economy, such that overall effort to reduce emissions would be sufficient to meet emissions targets.

5) The Committee's findings included the need for strong, coordinated regulation to reduce or eliminate adverse impacts. Experience with the remediation of open-cast coal sites in Scotland has highlighted the importance of robust decommissioning and restoration regimes. Robust regimes would be required to ensure operators/owners comply with their obligations, and communities and the public sector were not left to deal with restoration and aftercare issues and costs.

6) Consideration, design, collection of relevant data, introduction and regulation of robust regimes to mitigate the risk of induced seismicity and adverse environmental impacts would have resource implications for the relevant authorities and stakeholders and may lead to increased costs for operators/owners during all stages, including decommissioning, of an unconventional oil and gas development.

7) It is very difficult to predict the potential upscaling of the unconventional oil and gas industry under this option. HSE has advised that resourcing would be kept under review under this option and SEPA has advised that the potential resource implications of this option would be informed by discussion with the Environment

⁶ <https://www.gov.scot/Publications/2017/10/9813>

⁷ <https://www.gov.scot/Publications/2016/11/5969>

⁸ <https://www.gov.scot/Publications/2016/11/1380>

Agency. The Coal Authority has advised that due to the infrequency of the granting of relevant access agreements, it would be difficult to calculate the resource implications of this option.

8) The Scottish Government is committed to reviewing the wider planning fee regime to better reflect the developments which are now coming forward and to take account of the changes brought in by the Planning (Scotland) Act 2019.

Stakeholder Responses

1) Both groups of respondents expressed concerns about the KPMG report, and how the findings of this work had been used to inform the partial BRIA.

The predominant view of Option 2 (offered by a range of organisations and most individuals) was that any benefits would be minimal and would be confined to businesses in the oil and gas industry. Furthermore, these benefits were not worth the likely negative impacts for the environment, for communities and for other businesses.

3) A number of respondents, including community groups and individuals, were concerned that the partial BRIA had underestimated, or did not take full account of, the risks involved in unconventional oil and gas operations and the costs that might be incurred as a result of operational accidents and failures.

6) A number of respondents, including community groups and individuals, were concerned that the partial BRIA had also underestimated, or not taken full account of, the costs related to development and operation of a satisfactory regulatory regime.

Option 3 – pilot project

Benefits

Partial BRIA Statements

1) All those benefits outlined in Option 1 are considered relevant to this option.

In addition, this option increases understanding of the extent of the potential resource and impacts associated with unconventional oil and gas extraction over the whole lifespan of development (exploration, appraisal, production, and decommissioning) - approximately 10 years.

2) The theoretical pilot project would be delivered in collaboration with an independent research body or an academic institution which will help ensure the objectivity of the research undertaken and conclusions, robustness of the data collected and emphasis on dissemination of the findings.

Stakeholder Responses

1) A number of respondents noted that this would extend uncertainty for communities and businesses; however, others (including oil and gas business and industry respondents) noted that this option could provide opportunities for informing future debate on onshore unconventional oil and gas extraction, and Scotland's energy

policy more widely. This option could also contribute to a positive economic future for the Central Belt area of Scotland, where shale gas is predominantly located.

2) Oil and gas business and industry respondents stated this option would provide potential benefits for business by enhancing knowledge.

Costs

Partial BRIA Statements

1) All those costs outlined in Option 1 will be relevant to this option.

In addition, the delivery of a pilot project in Scotland would require funding by project partners. The costs of the project will require to be discussed with the PEDL holder, project partners and relevant regulatory bodies and will depend on a range of factors, including the exploration activity which may already have been undertaken at the location, the drilling depth, number of wells required, and the infrastructure required to be installed to support the operation. Delivery of the project would also be dependent on receipt of relevant licences, consents and access agreements, for which there may be application fees and annual charges.

2) The Oil and Gas Authority advises that an onshore exploration well typically costs between £0.5m and £7m and may take two years to plan.⁹

Stakeholder Responses

1) Some oil and gas business and industry respondents stated there was insufficient information provided on this option, and queried the practical and financial feasibility of the type of research-led pilot proposed in the SEA.

As part of the consultation, we asked for stakeholder views on potential costs and funding sources. No views were offered in the responses received.

Scottish Firms Impact Test

During the consultation period, discussions were held with a range of oil and gas sector businesses. This helped inform the Scottish Firms Impact Test.

The Scottish Government held a workshop during the consultation period in November 2018 with oil and gas businesses and regulators:

- UKOOG
- INEOS
- DLA Piper
- SEPA
- Schlumberger
- Kingdom Oil and Gas Ltd
- Reach CSG Ltd

⁹ <http://www.scotcourts.gov.uk/docs/default-source/cos-general-docs/pdf-docs-for-opinions/2018csoh66.pdf?sfvrsn=0>

Competition Assessment

- **Will the measure directly or indirectly limit the number or range of suppliers?** No. Unconventional oil and gas exploration, development and production in Scotland will continue to be subject to the planning system under each of the options. In the event that local decision making by planning authorities results in limiting the market for supplies and services to the unconventional oil and gas industry in Scotland, this should have no impact on the market within other parts of the UK and internationally. It is also worth noting that many of the skills, equipment and techniques used for unconventional oil and gas drilling are similar to those used for offshore oil and gas, conventional onshore oil and gas and geothermal thereby providing other avenues for businesses to explore in Scotland.
- **Will the measure limit the ability of suppliers to compete?** No. Local decisions made by planning authorities will help determine the market for supplies and services to the unconventional oil and gas industry in Scotland but, within that market, none of the options should limit the ability of suppliers to compete. There will be no impact on suppliers' ability to compete in other parts of the UK and internationally. In addition, none of the options being considered would limit the ability of suppliers to compete in other related industries in Scotland, such as offshore oil and gas, conventional onshore oil and gas, and geothermal energy.
- **Will the measure limit suppliers' incentives to compete vigorously?** No. Local decisions made by planning authorities will help determine the market for supplies and services to the unconventional oil and gas industry in Scotland, but within that market, none of the options should limit suppliers' incentives to compete vigorously. There will be no impact on suppliers' incentives to compete elsewhere in the UK and international markets or in other related domestic industries.
- **Will the measure limit the choices and information available to consumers?** No. Shale gas is currently available on the international market. None of the options should limit import opportunities or information available to unconventional oil and gas consumers.

Consumer Assessment and Digital Impact Test

The Scottish Government consultation on the partial BRIA sought views on the following matters:

- **To what degree, if any, stakeholders consider the Options outlined within this document will impact on consumers.**

At the stakeholder workshop attended by oil and gas industry and regulatory bodies in November 2018, oil and gas industry representatives agreed there was a potential impact on suppliers and consumers from the implementation of the preferred policy position which may impact on future economic growth and consumer choice. Specific reference was made to direct industry supply of cheap energy, which would be of particular interest to high energy users.

- **What impact, if any, stakeholders consider future technological advances may have on an unconventional oil and gas industry.**

Within consultation responses, the predominant view was that the adoption of

Option 1 (the preferred policy position) would create opportunities for the development of other businesses, including those related to the renewable energy and low carbon technology sectors.

Oil and gas business and industry respondents stated that the adoption of Option 1 could damage Scotland's reputation regarding its commitment to science and technology, and did not consider that this would lead to investment in other sectors.

No respondents commented specifically on the impacts of future technological advances on an unconventional oil and gas industry.

Test run of business forms

Administrative forms introduced to support Scotland's onshore oil and gas licensing regime will be similar to those used by the Oil and Gas Authority (OGA) which has been the licensing authority since 2015 until the devolution of onshore oil and gas licensing in 2018. Holders of current licences in Scotland are familiar with the OGA forms, many of which are available online for stakeholders to view.

Legal Aid Impact Test

There is always the potential for the legality of a decision made by the Scottish Government to be challenged. The Scottish Legal Aid Board have advised that any judicial review of Scottish Ministers' decisions in respect of their finalised unconventional oil and gas policy in due course may attract Legal Aid funding but it is unlikely to have a major impact on the Fund unless it is particularly long-running or complex.

Enforcement, sanctions and monitoring

Unconventional oil and gas developments would require permission from the planning authority and may also require other relevant licences and consents, such as from SEPA or the Coal Authority. Drilling consent would also be required from Scottish Ministers as onshore oil and gas licensing authority in Scotland. In addition, other public bodies would require to be notified of any intention to drill, such as the HSE. With the exception of the Scottish Government's onshore oil and gas licensing regime, these are well-established systems and the relevant public body would provide the necessary enforcement and monitoring to ensure compliance under each option and mitigate, where appropriate, adverse impacts.

With regards to the onshore oil and gas licensing regime, since the devolution of onshore oil and gas licensing powers, the Scottish Government has been having discussions with the other regulatory authorities and bodies to increase understanding of the existing systems and regulations. This understanding of the systems operated by these other relevant bodies is informing the development of systems and processes for a licensing regime in Scotland, including enforcement, sanctions and monitoring.

Implementation and delivery plan

The adopted policy will also be reflected in the draft of the next iteration of the National Planning Framework (NPF4). This draft is expected in the parliamentary session 2020/21. When they come into force, the provisions of the Planning

(Scotland) Act 2019 will mean that Ministers cannot adopt the National Planning Framework unless Parliament have approved it – a significant change from previous iterations. The National Planning Framework sets the context for development planning in Scotland and provides a framework for the spatial development of Scotland as a whole. It sets out the Government’s development priorities over the next 20-30 years and identifies national developments which support the development strategy.

Certain powers in relation to onshore oil and gas licensing were devolved on 09 February 2018. Commencement of sections 47 to 49 of the Scotland Act 2016 transferred powers for:

- granting and regulation of licences to search and bore for and get petroleum within the Scottish onshore area;
- determining the terms and conditions of licences; and
- regulating the licensing process, including administration of existing licences.

The regulation, including setting, of the consideration payable for a licence remains reserved. In addition, the UK Government has powers to revoke a licence on the basis of failure to make payments due under the licence.

In addition to the policy of no support for unconventional oil and gas being a material consideration for planning decisions, Scottish Ministers will discharge their devolved licensing powers having regard to the adopted policy position of no support for unconventional oil and gas in Scotland. Therefore, given the terms of our finalised policy, we do not anticipate granting any new unconventional oil and gas licences in Scotland.

Post-implementation review

The Planning (Scotland) Act 2019 sets out that the time period for review of the National Planning Framework is extended to 10 years.

Summary

The Scottish Government has undertaken an extensive and comprehensive period of evidence-gathering, including consultation, over the past five years which examines the issues, challenges and opportunities presented by unconventional oil and gas. The content of this BRIA draws on the findings of this activity, in particular the suite of research reports which were published in 2016.

The amount of unconventional oil and gas that could be economically or technically recovered in Scotland is not known. Further exploratory work (including core sampling) would be required to better understand the resources that could be commercially exploited.

The total economic impact of unconventional oil and gas is estimated to be relatively low, and is not comparable to the current offshore industry in Scotland.

While an unconventional oil and gas sector in Scotland could provide important benefits to Scotland’s petrochemical sector and provide a cost-effective gas supply for local energy networks, and increase security of supply, particularly for high energy

use industries, the scale of production in Scotland would be relatively low in comparison to European or international gas production and would be unlikely to have an impact on global gas supply prices, and therefore on consumer energy costs.

The Scottish Government considers the development of an onshore unconventional oil and gas industry in Scotland would make achieving its energy and climate change commitments more challenging. Whilst acknowledging the important role of gas in the transition to a low carbon energy future, the addition of an onshore unconventional oil and gas industry would not promote Scotland's ability to meet its greenhouse gas emissions targets or objectives in relation to protecting and enhancing the environment.

The statutory and other assessments undertaken and the consultation responses to the findings and all the previous evidence assembled by the Scottish Government have been carefully considered during the policy development process.

Recommendation


Based on current evidence and social acceptability, Option 1 has been recommended: no support for unconventional oil and gas development in Scotland. This means development connected to the onshore exploration, appraisal or production of coal bed methane or shale oil or shale gas using unconventional oil and gas extraction techniques, including hydraulic fracturing and dewatering for coal bed methane.

Having considered all available evidence and responses to public consultation, including to the partial BRIA, Ministers have confirmed their policy of no support for unconventional oil and gas in Scotland's energy mix, following the completion of the policy-making process.

Declaration and publication

I have read the Business and Regulatory Impact Assessment and I am satisfied that (a) it represents a fair and reasonable view of the expected costs, benefits and impact of the policy, and (b) that the benefits justify the costs. I am satisfied that business impacts have been assessed with the support of businesses in Scotland.

Signed:



Date: 25 September 2019

Minister's name: Paul Wheelhouse

Minister's title: Minister for Energy, Connectivity and the Islands



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