Department for the Economy
www.economy-ni.gov.uk

Onshore Petroleum Licensing Policy for Northern Ireland

CONSULTATION DOCUMENT

JANUARY 2024

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1. Introduction to the consultation

WHAT IS THE PURPOSE OF THIS CONSULTATION?

1.1 The purpose of the consultation is to set out the options for onshore petroleum licensing policy in Northern Ireland, provide detail on the proposed policy and to seek views on the issues raised, as well as the way forward.

1.2 The consultation has the following main sections:

"What is onshore petroleum exploration and production?"

"**What is happening outside Northern Ireland?**"
Global and regional developments and policies that impact onshore petroleum exploration and production.

"What happens in Northern Ireland?"
The situation in Northern Ireland including policies, potential onshore oil and gas resource and exploration history.

"What does the independent Northern Ireland research tell us?"
Summary and analysis of the independent research into the economic, environmental and social impacts of onshore petroleum exploration and production in Northern Ireland.

"What should happen next?"
A discussion of options for onshore petroleum licensing policy in Northern Ireland. This includes the preferred option for the way forward and asks for your views on five key questions.

WHY WE ARE CONSULTING

1.3 The petroleum licensing system is the set of rules for how companies can search for and extract onshore oil and gas in Northern Ireland. It is the responsibility of DfE under the Petroleum (Production) Act (Northern Ireland) 1964 and other regulations. Offshore petroleum exploration and production which takes place in coastal or open waters is not devolved to the Northern Ireland Executive and is the responsibility of the North Sea Transition Authority (formerly known as the Oil and Gas Authority).

1.4 In 2019, DfE began to consider the current onshore petroleum licensing system to assess its effectiveness and impact on sustainability, particularly in light of the UK's net zero carbon commitments. To support this process, DfE commissioned research into the environmental, social and economic impacts of onshore petroleum exploration and production in Northern Ireland. This research, conducted by Hatch Regeneris, has bolstered Northern Ireland specific knowledge and is available as part of the consultation pack. This research-based approach has been taken by the other UK administrations prior to the formulation of final policy proposals.

1.5 Consideration of the Northern Ireland specific position is set against the backdrop of local and international efforts to combat climate change (e.g. the Paris Agreement, UK Net Zero Commitment by 2050). This has intensified following recent reports from the UN Intergovernmental Panel on Climate Change (IPCC) and recommendations on the oil and gas industry from the International Energy Agency (IEA). Neighbouring administrations have taken action to varying degrees on onshore oil and gas exploration and production.

1.6 In October 2020, the Northern Ireland Assembly passed a motion calling for a moratorium on petroleum licensing for exploration, drilling or extraction of hydrocarbons (oil and gas) in Northern Ireland. In advance of the October 2020 Assembly debate, DfE obtained legal advice that a moratorium on fracking or, on petroleum exploration and extraction, prior to the independent research and policy development process completing, could result in a legal challenge with a high likelihood of success. The Climate Change Act (Northern Ireland) 2022 has also been passed. There is considerable public interest in this issue, especially concerning the potential use of hydraulic fracturing (fracking).

1.7 These developments demonstrate the need for this review of the onshore petroleum licensing policy position in Northern Ireland to ensure it is fit for purpose.

IMPACT ASSESSMENTS

1.8 The consultation document analyses the social, environmental and economic impacts of a range of policy options and draft impact assessments have been completed where appropriate. Final impact assessments will be informed by the responses and evidence submitted through this consultation process and will be available alongside the final policy position. Following the consultation, a Section 75 Equality of Opportunity Screening will be completed for the proposed policy option prior to any Ministerial decision being made. The final decision on the onshore petroleum licensing policy in Northern Ireland will be taken by a future Executive.

1.9 A draft Rural Needs Impact Assessment (RNIA) has been completed for the preferred option. The draft RNIA will be revisited to ensure all relevant issues have been taken into account and finalised prior to the introduction of any new legislation. The need for a Strategic Environmental Assessment (SEA) has been screened out at this stage. As the preferred option is a no development option it does not provide a framework for the development consent for projects and will have no significant effects on the environment. This position will be revisited following the consultation and prior to finalising the policy position.

2. How to respond

2.1 This public consultation is open until **12 April 2024**. Please respond by answering the questions online. If not responding using the online survey, your response will be most useful if it is framed in direct response to the questions posed. The questions are:

- *Do you agree with the assessment of the policy context and potential for onshore oil and gas resource in Northern Ireland?*
- *Do you agree with the assessment of the economic impacts of potential onshore oil and gas exploration and production in Northern Ireland?*
- *Do you agree with the assessment of the potential social and environmental impacts of onshore oil and gas exploration and production in Northern Ireland?*
- *Do you agree with the preferred option for onshore petroleum licensing policy?*
- *Do you think there are alternative options for onshore petroleum licensing policy in Northern Ireland which should be considered?*

2.2 We encourage respondents to respond to this consultation online where possible, as this is the Department for the Economy's (DfE) preferred method of receiving responses. It is also the most convenient and simple way for you to make a response. You can answer the questions by completing the Citizen Space online survey.

2.3 Responses submitted in writing or by email will also be accepted. Email responses to this consultation should be sent to petroleumpolicyreview@economy-ni.gov.uk. Alternatively you may post your response to DfE at:

Onshore Petroleum Licensing Policy for Northern Ireland Consultation
Minerals and Petroleum Branch
Floor 7
Adelaide House
39-49 Adelaide Street
Belfast
BT2 8FD
Tel: 028 9052 9377

2.4 If you require an alternative format (Braille, audio, CD, etc.), please contact DfE on petroleumpolicyreview@economy-ni.gov.uk and appropriate arrangements will be made as soon as possible.

2.5 Following the end of the consultation, DfE may publish anonymised direct quotes from your consultation response. Further detail on this, and how it relates to access to information legislation, can be found in Section 9.

3. What is onshore petroleum exploration and production?

3.1 Onshore petroleum exploration and production is the process of searching for underground accumulations of oil and gas known as hydrocarbons. This involves a range of desk-based and non-invasive studies to identify prospective targets and then drilling to test them. Following this process, if drilling discovers significant quantities of hydrocarbons that can be commercially extracted, production of oil and gas may follow. Not all exploration will lead to production.

3.2 Areas that are the focus of exploration are chosen based on the local geology (i.e. the types of rock underneath the surface, their history, and the structures they have formed). This consultation deals with the two types of oil or gas accumulations and the two different methods of extraction that are used for each.

CONVENTIONAL HYDROCARBONS

- This oil and gas is located within porous and permeable rocks such as sandstones.
- As these rocks are permeable, oil and gas is relatively straightforward to bring to the surface. The extraction process primarily involves the drilling of vertical wells into the ground to reach the oil or gas, which often flows into the well unaided and is then pumped to the surface.

UNCONVENTIONAL HYDROCARBONS

- This oil and gas is located in rocks that do not have the permeability (minute connected pathways) that would allow the hydrocarbons to easily flow from them.
- Oil and gas does not flow from these rocks without help. Methods used to promote the flow include drilling of vertical wells with long horizontal extensions that increase the area in contact with the rock and high volume hydraulic fracturing (fracking) to create the pathways for oil or gas to flow into the well.

3.3 To proceed with any activity the geological, technical and economic conditions need to be suitable. The local environment needs to be respected and protected in line with the relevant laws. Developers also need the “social licence” to operate. This means that there needs to be broad local support for exploration and buy in from the communities where it might take place.

3.4 Exploration for unconventional oil and gas has become more prominent in recent years with extraction of oil and gas made possible through technological changes including the combination of horizontal drilling and high volume hydraulic fracturing (fracking). This has been championed by some as a means to obtain a secure energy supply, but it has also received widespread criticism for its potential environmental and social impacts and risks.

3.5 Offshore petroleum exploration and production takes place in coastal or in open waters, i.e. not on land. Responsibility for UK licensing in this area rests with the North Sea Transition Authority (formerly known as the Oil and Gas Authority), not the Northern Ireland Executive. There are currently no offshore petroleum licences near Northern Ireland.

4. What is happening outside Northern Ireland?

4.1 This section sets out some of the recent developments in onshore petroleum exploration and production as well as the policies that impact this activity in Great Britain, Republic of Ireland and international jurisdictions.

INTERNATIONAL DEVELOPMENTS AND POLICIES

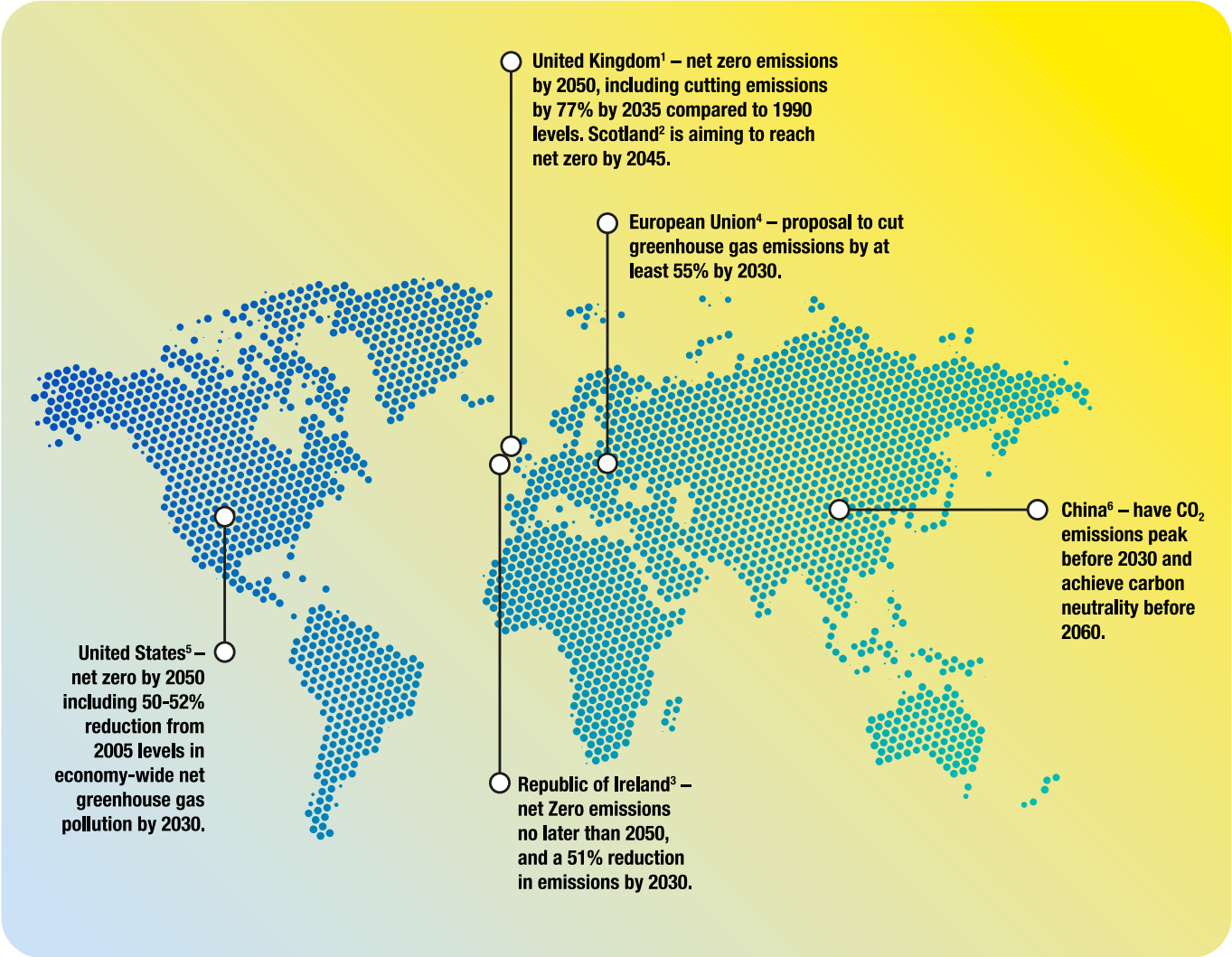
4.2 Recent years have seen a high profile "shale boom" in the United States. By 2019, the USA produced 98% of the shale oil and 78% of the shale gas in the world becoming a net exporter of hydrocarbons. This growth in the hydrocarbon industry has brought economic benefits to those regions with long standing oil and gas infrastructure and a less prescribed regulatory system.

4.3 Policies aimed at combating climate change are now having a major impact on onshore petroleum exploration, and raising questions about how this activity contributes to greenhouse gas emissions, the appropriateness of continuing to explore for fossil fuels and the future of jobs in this industry. The recent International Energy Agency (IEA) report The Oil and Gas Industry in Net Zero Transitions has highlighted the need for the industry to adapt to the move towards net zero.

4.4 The 2015 Paris Agreement was signed by 191 countries. It aims to substantially reduce global greenhouse gas emissions to limit the global temperature increase in this century to 2 degrees Celsius while pursuing efforts to limit the increase even further to 1.5 degrees in order to achieve a climate neutral world by the mid-century. The Agreement includes commitments from all countries to reduce their emissions and work together to adapt to the impacts of climate change, and calls on countries to strengthen their commitments over time.

4.5 The Glasgow Climate Pact was agreed at the COP26 climate change conference in 2021. This package of decisions reaffirms the international communities commitment to limiting global temperature rise to 1.5°C, as well as calling for the phasing-down unabated coal power and ending of fossil fuel subsidies. The COP 28 conference in November 2023 made further commitments to transition away from fossil fuels and triple the use of renewables by 2030.

4.6 Individual countries have developed emissions targets to help reach these goals. These include:



1 gov.uk website - United Kingdom emissions targets September 2023
2 gov.scot website - Scotland emissions targets
3 Government of Ireland website - Republic of Ireland emissions target August 2021
4 European Commission website - EU 2030 Climate Target Plan
5 Whitehouse.gov website - Reducing U.S. greenhouse emissions
6 AP news website - China emissions target 2030

4.7 These are ambitious targets that will require significant changes including a decrease in fossil fuel use in business and domestic settings through a focus on energy efficiency measures. There will also need to be a corresponding increase in the use of and investment in other sources of energy, e.g. growth in renewables such as wind or solar power and exploration and development of alternative zero-carbon fuels.

4.8 Pressure continues to increase on the scale and speed of the efforts needed to meet these critical and formidable goals. The UN's Intergovernmental Panel on Climate Change (IPCC) is a group of scientists whose findings are endorsed by the world's governments. Successive reports have demonstrated the need for huge cuts in carbon emissions which, in part, led to calls for climate legislation in Northern Ireland. The Climate Change 2023 report puts it very succinctly "Limiting human-caused global warming requires net zero CO_2 emissions".

4.9 The International Energy Agency (IEA) is an autonomous intergovernmental organisation set up under the framework of the Organisation for Economic Co-operation and Development (OECD). It has specific recommendations for the oil and gas industry. The May 2021 report Net Zero by 2050 recommends that, beyond projects already committed as of 2021, there should be no new oil and gas fields approved for development in our pathway to achieve net zero. The November 2023 report The Oil and Gas Industry in Net Zero Transitions states "In a scenario that hits global net zero emissions by 2050, declines in demand are sufficiently steep that no new long lead-time conventional oil and gas projects are required".

ENERGY SECURITY AND ENERGY COSTS

4.10 Energy security is defined as "the uninterrupted availability of energy sources at an affordable price". Rising wholesale energy prices and the Russian invasion of Ukraine in February 2022 means that where energy comes from and how much it costs has become one of the most pressing geo-political issues. It is also a major issue for all of us as we spend a lot more to heat our homes, fill up the car and cope with increases in the price of food and other goods.

4.11 In response to increasing concerns about energy security, the UK government published the British Energy Security Strategy in April 2022. This outlines long term plans to provide secure, clean and affordable energy by focusing on renewable and nuclear energy. It emphasises that North Sea oil and gas will need to be used during the transition to net zero and that the government is remaining open minded about onshore gas reserves. There have been renewed calls to allow fracking as a way to increase energy security and independence.

4.12 In response to this the UK government commissioned the British Geological Survey to advise on the latest scientific evidence around shale gas extraction and associated seismic activity. The report was published in September 2022. It concluded that "forecasting the occurrence of large earthquakes and their expected magnitude is complex and remains a scientific challenge. As a result, our ability to evaluate and mitigate risks from hydraulic fracturing-induced seismicity and predict the occurrence of larger earthquakes during hydraulic fracturing operations is also a challenge." The report also concludes that "there are new seismic data analysis methods that could help to manage the risk of seismic activity from hydraulic fracturing in shales. Further work is needed to develop these methods and incorporate them in risk assessments."

4.13 The UK government formally lifted the moratorium on shale gas extraction in September 2022. This change in policy was widely opposed both from the opposition and within the government. In October 2022 it was confirmed that the Prime Minister Rishi Sunak stood by the policy of a moratorium as stated in the 2019 manifesto.

ONSHORE PETROLEUM LICENSING POLICY IN GREAT BRITAIN AND REPUBLIC OF IRELAND

4.14 The rules for granting onshore petroleum licences are different in the rest of the UK than in Northern Ireland. In England, a system of licensing rounds, administered by the North Sea Transition Authority, is in place where companies have a limited period to apply for a licence for an area that they wish to explore. Onshore petroleum licensing policy has been a devolved matter in Scotland and Wales since 2018. There have been a number of significant policy developments (mainly relating to unconventional oil and gas) in the past few years as shown in the sections below.

4.15 England

4.16 Scotland

4.17 Wales

4.18 Republic of Ireland

At COP26 in November 2021, Wales and Ireland were part of a group of ten national and regional governments that pledged to stop licensing oil and gas production[7]. This has since been formalised as the Beyond Oil and Gas Alliance as "a first-of-its-kind alliance of governments and stakeholders working together to facilitate the managed phase-out of oil and gas production". The policies of neighbouring administrations have halted a lot of, but not all, onshore petroleum exploration in the UK and Ireland. This will impact the decisions of companies looking to invest in this sector and that needs to be taken into account in the consideration of Northern Ireland's onshore petroleum licensing policy.

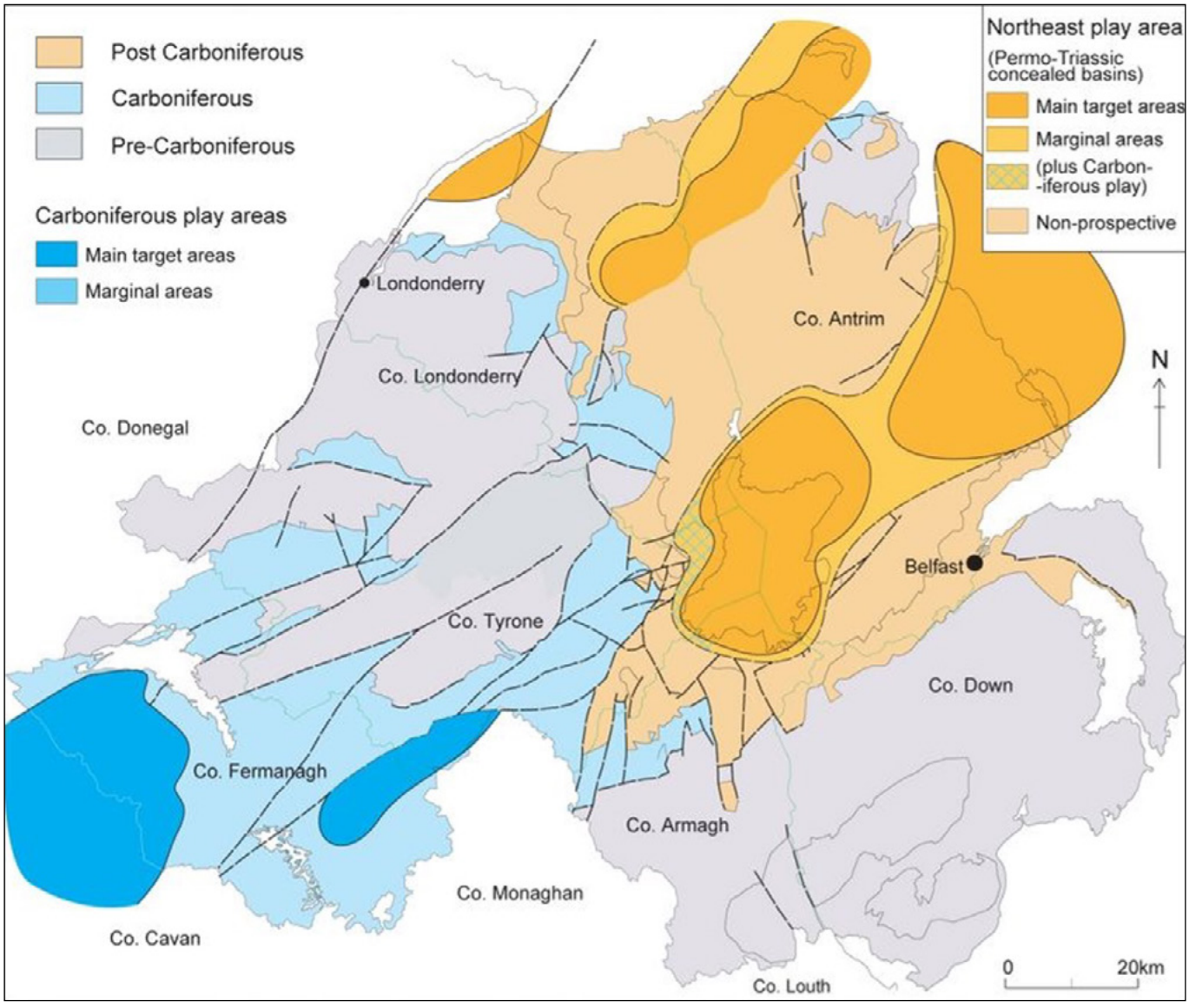
7 BBC News website - Wales pledges to stop licensed oil and gas production

5. What happens in Northern Ireland?

5.1 This section considers the potential onshore petroleum resource in Northern Ireland, the current system for petroleum licensing including relevant policies and details of previous exploration.

5.2 Whilst not an established location for oil and gas exploration, Northern Ireland has seen some limited exploration activity since the 1960s. The map below shows the areas that may have potential for oil and gas exploration. The orange areas represent potential conventional hydrocarbon resource and the blue areas represent potential unconventional hydrocarbon resource.

AREAS PROSPECTIVE FOR HYDROCARBONS IN NORTHERN IRELAND



Source: Geological Survey of Northern Ireland

5.3 DfE has the power to grant licences "to explore for, bore for and get" petroleum in Northern Ireland. This power was granted by the Petroleum (Production) Act (Northern Ireland) 1964 and has been supplemented by further legislation since then.

5.4 All of onshore Northern Ireland, excluding internal waters, is available for Petroleum Licence applications. Unlike the rest of the UK, Northern Ireland has an "open door" policy meaning that a company can apply for a licence at any point rather than during a particular licensing round. In addition to submitting an application, companies must meet financial and technical capability thresholds, as well as demonstrate sufficient environmental awareness. Details of the application and assessment process for petroleum licence applications can be found in the Guidance for Applicants.

5.5 DfE's current stated policy objective is "...to maximise successful and expeditious exploration and exploitation of Northern Ireland's oil and gas resources."[8] Historically this policy has been driven by economic considerations such as wanting a secure and local source of energy and attracting inward investment by developers/licensees.

5.6 Since 1964 there have been thirty-four Petroleum Licences. A total of sixteen exploration wells and two shallow stratigraphic boreholes have been drilled under these licences. Although several wells have recorded the presence of onshore oil or gas, it has not been in a sufficient quantity to be suitable for commercial development. There are currently no active petroleum licences in Northern Ireland with the last active licence (PL1/10, under which the Woodburn Forest No. 1 well was drilled) relinquished in April 2020.

8 Department for the Economy website - Petroleum Licensing in Northern Ireland: Guidance for Applicants, page 27

LOCATIONS OF EXPLORATION DRILLING UNDER HISTORIC PETROLEUM LICENCES

This map is based on Crown Copyright and is reproduced with the permission of Land and Property Services under delegated authority from the Controller of Her Majesty's Stationary Office. Crown Copyright. MOU577.3/2021.

5.7 There are two petroleum licence applications currently with DfE. One application is for the Lower Lough Neagh area (PLA 1/16) and the other is focused on County Fermanagh (PLA 2/16). There was a public consultation on both applications in 2019 that raised a range of issues. Given the cross cutting and controversial nature of this issue previous DfE Ministers have stated that the final decision on these applications will be made by the Executive and not before the completion of the review of petroleum licensing policy[9]. Further details of these applications can be found on the Departmental website.

9 NI Assembly website. See debate on Onshore Fracking (Prohibition) Bill: Second Stage.

THE POLICY CONTEXT IN NORTHERN IRELAND

5.8 The Northern Ireland 'Energy Strategy – The Path to Net Zero Energy' aims to ensure that our energy is secure, affordable and clean for us now and future generations. One of the five main principles is to, "Replace fossil fuels with renewable energy: We will phase out fossil fuels by growing our indigenous renewable base, supported by sustainable renewable imports and use these to decarbonise power, heat and transport."

5.9 In addition to the Energy Strategy, any onshore petroleum licensing policy must align with a number of other policies, proposals and commitments. Some examples are:

- In 2020, the New Decade New Approach document included a commitment to introduce legislation and targets for reducing carbon emissions in line with the Paris Climate Change Agreement.
- The 10X Economic Vision for the Northern Ireland Economy is based around three pillars of innovation, inclusive growth and sustainability. The sustainability objectives are for 80% electricity consumption from renewable sources, greenhouse gas emissions 48% lower than baseline and to double the size of NI's low carbon and renewable energy economy to more than £2bn turnover.
- The Green Growth Strategy will be delivered through a series of Climate Action Plans, which will set out the actions to meet sector-specific greenhouse gas emission targets leading to a cleaner environment, more efficient use of our resources within a circular economy and green jobs.
- The Climate Change Act (Northern Ireland) 2022 was passed in March 2022. This legislation sets targets for the reduction of greenhouse gas emissions for the years 2030, 2040 and 2050. It states that "The Northern Ireland departments must ensure that the net Northern Ireland emissions account for the year 2050 is at least 100% lower than the baseline."
- In September 2021 the Infrastructure Minister announced a review of strategic planning policy on oil and gas development. This will include conventional and unconventional hydrocarbon development.

6. What does the independent Northern Ireland research tell us?

6.1 As detailed in section three, in October 2020, DfE commissioned independent research (hereafter referred to as the research) into the economic, social and environmental impacts of onshore petroleum exploration and production in Northern Ireland (both conventional and unconventional oil and gas).

6.2 Following an open procurement process, Hatch Regeneris was awarded the contract for the work by DfE. The research was overseen by a steering group of officials from DfE Energy Group, Geological Survey of Northern Ireland (GSNI) and Northern Ireland Environment Agency (NIEA). The final report was received by DfE in July 2021. This section details the key findings of the research which can be accessed as part of the consultation pack. Page references for specific sections are also provided for ease of reference.

6.3 Hatch Regeneris applied development scenarios to help identify the potential impacts of different levels of future exploration and production activity. This method has been applied widely in numerous studies of this nature in other jurisdictions[10]. The four scenarios were - no development and then low, medium and high levels of development. A 30-year period to 2050 was used to measure the impacts and encompass the stages of a standard exploration and production process – from preliminary investigations through production and to the closure of a site.

6.4 The final Hatch research sets out the relevant policies in Northern Ireland and further afield, as well as the potential for onshore oil and gas development in Northern Ireland. Conclusions and findings were based on information available at the time of the research, as well as informed through engagement with stakeholders from industry, government, interest groups and local elected representatives.

6.5 The research sets out the following key findings which are considered in more detail below:

- Changing policy context with international, UK and Executive commitments to reduce greenhouse gas emissions and proposals to phase out fossil fuels;
- The uncertainty around the potential for onshore oil and gas resources within Northern Ireland;
- Relatively modest economic benefits of any potential development of onshore oil and gas in Northern Ireland; and
- The risk of moderate adverse and, in some cases, potentially major adverse environmental and social impacts associated with potential development of onshore oil and gas in Northern Ireland.

10 See KMPG - Unconventional oil and gas: Economic Impact Assessment and scenario development of unconventional oil and gas in Scotland (2016) (www.gov.scot website)

CHANGING POLICY CONTEXT AND UNCERTAINTIES

Research Report sections 3, 4 (p.23-57) and section 6 (p.65-76)

6.6 As set out in the earlier sections of this consultation, the global and regional context for petroleum exploration and production has significantly altered in recent years with further change inevitable. Since 2015, targets have been introduced with the aim of reducing greenhouse gas emissions as well as phasing out combustion of fossil fuels. The moratoria and bans on various forms of petroleum exploration in the rest of the UK and the Republic of Ireland will also have a significant impact reducing the likelihood of further research and investment.

6.7 The research highlights the limited data on Northern Ireland's prospectivity for onshore oil and gas. Whilst it is feasible that there is oil and gas resource, there is also a high level of uncertainty about whether there is enough to make production commercially viable. On this basis, Hatch conclude that extensive further exploration activity would be needed before it could be concluded that commercial extraction would be viable.

QUESTION 1 – CHANGING POLICY CONTEXT AND UNCERTAINTIES
DO YOU AGREE WITH THE ASSESSMENT OF THE POLICY CONTEXT AND POTENTIAL FOR ONSHORE OIL AND GAS RESOURCE IN NORTHERN IRELAND?

ECONOMIC IMPACTS

Research Report section 7 (p. 76-102)

6.8 The research presents the potential economic benefits of onshore oil and gas exploration and production in Northern Ireland.

Main economic impact figures for the four scenarios

	Average Employment Impacts per year (Person Years) within Northern Ireland	GVA Impacts (per annum)	Potential total lifetime retained expenditure
No development	No impacts	No impacts	No impacts
Low development	35 – 45	£2.2m – £3.3m	£63.10m – £94.40m
Medium development	60 – 85	£4.0m – £6.0m	£113.60m – £169.90m
High development	110 – 155	£7.6m – £11.3m	£214.60m – £320.90m

6.9 Any level of development would create a demand for skills and jobs, however, the estimated number of jobs which would be created both in the industry and indirectly is low across all scenarios. The Northern Ireland economy does not have the significant chemical or energy intensive sectors that would benefit from indigenous onshore oil and gas production. The level of retained benefit from expenditure by the sector is estimated to be below 50% in all scenarios, even with the highest level of development and local sourcing of goods and services.

6.10 The research concludes that the costs and scale of development in Northern Ireland would be unlikely to achieve economies of scale or low production costs required to impact energy prices. It raises questions about the impact such activity could have on the local tourism industry that often focuses on the unique and untouched natural environment of Northern Ireland. Exploration and production activity could harm that reputation and therefore harm that sector of the economy.

QUESTION 2 – ECONOMIC IMPACTS
DO YOU AGREE WITH THE ASSESSMENT OF THE ECONOMIC IMPACTS OF POTENTIAL ONSHORE OIL AND GAS EXPLORATION AND PRODUCTION IN NORTHERN IRELAND?

ENVIRONMENTAL AND SOCIAL IMPACTS

Section 8 (p.103-187)

6.11 The potential economic impacts need to be considered alongside the potential social and environmental impacts. The research presents an assessment of the significance of these factors on an assumption that current environmental as well as planning regulations will be adhered to, and that best practice industry mitigation measures will be implemented. The social and environmental impacts are greater with a higher level of development and, in some cases, are of a major adverse significance.

Environmental and social impacts of the four scenarios

- No development
  No social or environmental impacts.
- Low development scenario
  Potential effects of moderate adverse significance related to public health, and seismicity (unconventional only).
- Medium development scenario
  Potential effects of at least moderate adverse significance for the following additional topics over and above the low scenario: groundwater and surface water; green house gas emissions (unconventional only); loss of soils; some landscapes and geodiversity receptors (potentially greater for unconventional wells).
- High development scenario
  Potential effects of at least moderate adverse significance for the following additional topics over and above the medium scenario: some air quality receptors; handling, storage and disposal of waste; and habitat loss, disturbance and fragmentation. The significance of the effects for the groundwater abstraction and pollution and social cohesion and community wellbeing receptors are assessed as being of major adverse significance.

6.12 The research also highlights that there is uncertainty about some impacts, such as longer term gas leakage after well closure and pollution of ground water aquifers from any fracking process or the failure or deterioration of well integrity over time. This is a high level analysis of the impacts so conclusions reached are not site specific. It is important to note impacts will vary by geographic location and there may be additional unforeseen effects.

6.13 There are other gaps in evidence particularly around the longer term public health impacts, cumulative health impacts and potential cumulative impacts of a combination of emissions on site as well as impacts on water resource availability, water quality and the fragmentation of habitats. These gaps in evidence make a reliable assessment of impacts challenging in these areas.

6.14 The research indicates that any form of development will have noticeable impacts on local communities and landscapes, even with the checks provided by the law and best practice. This may make it difficult to achieve the social licence that would make exploration and production possible or feasible.

6.15 In 2020 DfE commissioned the British Geological Survey to carry out a desk-based study of the potential risks of induced seismicity from high volume hydraulic fracturing of shales in Northern Ireland. The Report, which is available as part of the consultation pack, considered the principal areas of Northern Ireland that may be prospective for shale gas and shale oil - the Lough Allen (Fermanagh) and Rathlin (Antrim) sedimentary basins. It reviewed seismicity data associated with high volume hydraulic fracturing elsewhere (primarily GB and North America). It also incorporated the available seismicity data for the two NI basins, known potential risks and mitigations. The report concluded that the present-day stress regime and stress state of the faults in these basins are poorly understood. Our understanding of these basins could be improved through better geophysical data and improved regional seismic monitoring.

QUESTION 3 – ENVIRONMENTAL AND SOCIAL IMPACTS
DO YOU AGREE WITH THE ASSESSMENT OF THE POTENTIAL SOCIAL AND ENVIRONMENTAL IMPACTS OF ONSHORE OIL AND GAS EXPLORATION AND PRODUCTION IN NORTHERN IRELAND?

7. What should happen next?

7.1 This section sets out four possible options for onshore petroleum licensing policy in Northern Ireland:

Option 1: Status quo – Do Nothing;
Option 2: Change from open door policy to licensing rounds in defined areas;
Option 3: Moratorium and eventual legislative ban on exploration or production of unconventional hydrocarbons; or
Option 4: Moratorium and eventual legislative ban on all forms of onshore petroleum exploration and production.

SUMMARY OF APPRAISAL OF OPTIONS

7.2 The following table summarises the appraisal of the four options against key criteria using a traffic light system; with green indicating a desirable outcome, red an undesirable outcome and amber as neutral. The appraisal of each option is discussed in more detail below:

Option	Policy Fit	Economic impacts	Environmental impacts	Social impacts	Deliverable
1. Status quo	No	Low – positive	Medium to high – negative	Medium to high - negative	No action
2. Licensing rounds	No	Low – positive	Medium to high – negative	Medium to high - negative	New legislation and regulatory framework
3. Moratorium and eventual legislative ban on exploration or production of unconventional hydrocarbons; or	Partial	Low – positive	Medium – negative	Medium – negative	Legislative change
4. Moratorium and eventual legislative ban on all forms of onshore petroleum exploration and production.	Yes	Low – positive	None – negative	None - negative	Legislative change

DISCUSSION OF OPTIONS

Option 1: Status Quo – Do Nothing

7.3 This would involve no change to the current licensing rules and no change to the current policies. The open door policy would remain in place and the focus would continue to be on maximising the economic potential of Northern Ireland's oil and gas resources.

7.4 DfE's initial consideration of the petroleum licensing regime in 2019 indicated that the current system (and its supporting policy) does not give sufficient weight to the environmental and social impacts of onshore petroleum exploration and production. Since then there has been a further shift towards reducing greenhouse gas emissions through the 2022 Climate Change Act and prioritising sectors that benefit the growth of a carbon neutral, green economy in the 10X Economic Vision and the Energy Strategy.

7.5 There has never been any indigenous production of onshore oil and gas so there is no dependence on the sector. In addition, the research shows that the economic benefit of continuing exploration for potential oil and gas would not be significant and that there could be negative consequences for society and the environment. Maintaining the current position would therefore appear to leave petroleum licensing out of step with the Climate Change Act, the Energy Strategy, have no major economic impact and potentially have adverse environmental and social impacts.

Option 2: Change from open door policy to licensing rounds in defined areas

7.6 This would maintain the policy to maximise the economic potential of Northern Ireland's natural resources but remove the open door policy and adopt a licensing round approach. The licensing round process as administered by the North Sea Transition Authority (formerly known as the Oil and Gas Authority) in England is informed by strategic environmental assessments and provides greater control over petroleum licensing activity. If a similar system were to be adopted in Northern Ireland, DfE would define the area open for applications and the conditions to be applied to licences would be informed by a Strategic Environmental Assessment (SEA). This approach would attempt to address some of the social and environmental concerns through environmental assessment and a more robust regulatory system.

7.7 From an economic perspective, there has never been any indigenous production of onshore oil and gas so there is no dependence on the sector. The Hatch research concludes the economic benefits of any future petroleum exploration and production would not be significant, so it would perhaps be difficult to justify a potentially lengthy process of regulatory reform to convert to a licensing round approach. There are also potentially more retained economic and skills benefits through investing in renewables and greener technologies as set out in the 10X Economic Vision. Like Option 1, this option would also appear to leave petroleum licensing out of step with the Climate Change Act, the Energy Strategy and broader economic and climate change priorities.

Option 3: Moratorium and eventual legislative ban on exploration or production of unconventional hydrocarbons

7.8 This would represent a significant shift in the current policy. It would lead to a moratorium and eventual legislative ban on exploration for all unconventional oil and gas (including fracking) in Northern Ireland. Companies would still be able to apply for licences to explore for conventional oil or gas.

7.9 There would be no detrimental impact to the economy as there is no current production of indigenous onshore oil and gas and the economic impacts of any future petroleum exploration and production have been shown by the research to be reasonably low. A reduction in any potential activity would also lead to a decrease in the social and environmental impacts of petroleum exploration associated with unconventional oil and gas. There have been particular concerns about the impact of high volume hydraulic fracturing (fracking) as shown by the motion in the Assembly, the introduction of a Private Members Bill to prohibit onshore fracking in the last Assembly mandate and the high level of objection to current licence applications. This option would help to alleviate those concerns although would not address the remaining impacts of any conventional onshore oil and gas exploration and production.

7.10 While more in line with the Climate Change Act, the Energy Strategy and other economic and environmental priorities than options 1 and 2, option 3 would not signal a complete shift away from fossil fuels as exploration for conventional onshore oil and gas would still be permitted.

Option 4: Moratorium and eventual legislative ban on all forms of onshore petroleum exploration and production.

7.11 This would represent the most significant shift in the current policy. It would lead to a moratorium and eventual legislative ban on exploration and production of all forms of onshore oil and gas in Northern Ireland. This would introduce a closed door policy for onshore petroleum exploration and production in Northern Ireland. **This is the preferred option.**

Why is this the preferred option?

7.12 The Hatch research concludes that supporting onshore petroleum exploration and production would not result in any significant increase in jobs, or wider benefits for the economy. Furthermore, such an approach would have no impact on energy prices for Northern Ireland consumers, as any oil or gas would be sold at international market prices. As there has been no commercial production of oil or gas in Northern Ireland to date and therefore no reliance on the sector, a ban on petroleum exploration and production would not disadvantage the broader economy. However, a ban on petroleum exploration and production would stop any future tax revenue or royalties from this activity.

7.13 Option 4 aligns with the commitment in the Energy Strategy to ensure that our energy is secure, affordable and clean for us now and for future generations by phasing out fossil fuels and supports the long term vision of Net Zero Carbon Energy for Northern Ireland. This option would ensure a focus on the growth of the low carbon and renewable energy sector, supporting people into secure, well paid jobs.

7.14 It would also remove the possibility of adverse social and environmental impacts on local communities and the rural environment whilst ensuring Northern Ireland plays its part in meeting climate commitments. The Climate Change Act (Northern Ireland) 2022 enshrines in legislation a commitment to meet emissions targets in 2030, 2040 and achieve net zero by 2050. International research from the International Energy Agency (IEA) recommends that there should be no further development of oil or gas fields in the pathway to achieve net zero. The UN's Intergovernmental Panel on Climate Change (IPCC) has repeatedly warned that huge cuts in carbon emissions are necessary to reach the targets of the Paris agreement and limit the impacts of climate change.

7.15 As part of the Energy Strategy Options consultation in 2021, stakeholders were asked if the current approach to petroleum licensing should change in line with the commitment to decarbonise energy. Of the 115 stakeholders who responded, there was broad support (86% of respondents to the question) for changing the approach to petroleum licensing. The majority of the written responses call for all petroleum licensing to be banned. Responses highlighted that continuing with licensing petroleum exploration and production would be inconsistent with net zero commitments and other aspects of the Energy Strategy.

7.16 The war in Ukraine and rising energy prices has brought into sharp focus the need to ensure we have more secure indigenous energy supply. The UK Government's British Energy Security Strategy (ESS) outlines long term plans to provide secure, clean and affordable energy by focusing on nuclear and renewable energy. This is in line with our preferred approach focusing on decarbonising our network through renewables and the use of biomethane and hydrogen technologies. The ESS also states that North sea oil and gas will need to be used during the transition to net zero. It remains open minded about onshore gas reserves. The British Geological Survey report on shale gas extraction and associated seismic activity shows that there is more to be done to understand the risks of this activity.

7.17 In 2023 the UK government began to pursue a policy of encouraging offshore oil and gas exploration as part of the the transition to net zero.[11] For our consideration of the NI position, there are no known oil and gas reserves like those found in the North Sea or onshore in GB. Therefore, any exploration or production of hydrocarbons would take significant time to find oil and gas with no guarantees that there is enough to merit commercial production. This investigative activity would not be able to address the immediate issues of security of supply and rising prices. In addition, the Hatch Report indicates the potential moderate to adverse environmental impacts and the 2021 BGS Report on seismic activity in NI basins concludes that the present day stress regime and stress state of the faults in these basins are poorly understood.

11 gov.uk website - New annual oil and gas licensing rounds to boost UK economy

7.18 In conclusion, there is no strong economic case to support the exploration for and possible production of any potential onshore oil and gas resources in NI. Such a course of action also runs contrary to the objectives of the NI Energy Strategy and targets in the Climate Change Act (Northern Ireland) 2022. In addition, both the Hatch Report and BGS Report on Seismic Activity in NI Basins raise concerns about the environmental and social impacts of onshore oil and gas exploration and extraction. **On this basis, the recommended preferred policy is a moratorium and eventual legislative ban on exploration and production of all forms of onshore oil and gas in Northern Ireland.**

QUESTION 4 – DO YOU AGREE WITH THE PREFERRED OPTION FOR ONSHORE PETROLEUM LICENSING POLICY?

QUESTION 5 – ALTERNATIVE OPTIONS
DO YOU THINK THERE ARE ALTERNATIVE OPTIONS FOR ONSHORE PETROLEUM LICENSING POLICY IN NORTHERN IRELAND WHICH SHOULD BE CONSIDERED?

REMINDER

You can answer the questions by completing the Citizen Space online survey.

The consultation is open until **12 April 2024.**

8. Next steps

8.1 Once this consultation is closed the responses will be analysed by DfE and a report will be made available. The responses will help identify any aspects of this topic that need further scrutiny or impact assessment and to gauge the level of support for the preferred option.

8.2 The final decision on the onshore petroleum licensing policy in Northern Ireland will be taken by the Executive, informed by the responses and evidence submitted through this consultation process.

8.3 Full implementation of any option other than the status quo would require passage of legislation through the Northern Ireland Assembly.

9. Confidentiality

FREEDOM OF INFORMATION, ENVIRONMENTAL INFORMATION AND DATA PROTECTION

9.1 Following the end of the consultation, DfE will publish a consultation report summarising responses received in an aggregated format. This report may include anonymised direct quotes from your response. Personal information that you provide in your response will not be published in the consultation report.

9.2 However, any information provided in responses, including personal information, may be subject to publication or disclosure in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or the Data Protection Act 2018 if DfE receives such a request for information.

9.3 With your response, please identify any information which you do not wish to be disclosed and explain why you regard that information as confidential. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded as binding on DfE. If we receive a request for disclosure of the information we will take full account of your explanation, but we cannot give an assurance that confidentiality can be maintained in all circumstances.

9.4 For information regarding the Minerals and Petroleum Branch Privacy Notice following the introduction of GDPR please use the following link: Minerals and Petroleum Branch Privacy Notice