Department for
Business, Energy
& Industrial Strategy

RE-USE OF OIL AND GAS ASSETS FOR CARBON CAPTURE USAGE AND STORAGE PROJECTS

Consultation

Closing date: 16 September 2019

July 2019

Any enquiries regarding this publication should be sent to us at:
ccusreuseconsultation@beis.gov.uk

Contents

General information

Why we are consulting

CCUS is likely to play an essential role in meeting our net zero target. The deployment of CCUS will also be central to supporting the low carbon transformation of the UK's industrial base and to achieve the Government's mission, announced in the Industrial Strategy, to establish the world's first net-zero carbon industrial cluster by 2040, and at least one low-carbon cluster by 2030.

There is the potential to reduce the costs of deploying carbon dioxide infrastructure through the re-use of appropriate existing oil and gas infrastructure. Re-use involves re-purposing offshore oil and gas assets, that have reached the end of their commercial life for producing hydrocarbons, to be part of a CCUS transport and storage network.

In the 'CCUS Deployment Pathway: An Action Plan' we committed to complete a process to identify existing oil and gas infrastructure that has the potential for re-use to support the development of CCUS in the UK and develop a policy on this. This consultation is the output of completing these two actions.

Consultation details

Issued: 22 July 2019

Respond by: 11:45pm on 16 September 2019.

Enquiries to:

CCUS Policy Team
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Consultation reference: Carbon Capture, Usage and Storage (CCUS) projects: Re-use of oil and gas assets

Audiences: Investors and developers in CCUS projects; the oil and gas sector; individuals and organisations interested in the energy sector.

Territorial extent: BEIS will work with the relevant devolved administrations to ensure that the proposed policies take account of devolved responsibilities and policies across the UK and will continue to engage with those administrations to further develop the policy proposals.

Information received in connection with this consultation may, where relevant, be shared with devolved administrations for the purposes of continuing to develop the policy proposals.

How to respond

Respond online at: beisgovuk.citizenspace.com/clean-electricity/ccus-reuse-existing-oil-gas-assets

or

Email to: ccusreuseconsultation@beis.gov.uk

Write to:

CCUS Policy Team
Department for Business, Energy and Industrial Strategy
3rd Floor, 1 Victoria Street
London
SW1H 0ET

When responding, please state whether you are responding as an individual or representing the views of an organisation. Your response will be most useful if it is framed in direct response to the questions posed, though further comments and evidence are also welcome.

Confidentiality and data protection

Information you provide in response to this consultation, including personal information, may be disclosed in accordance with UK legislation (the Freedom of Information Act 2000, the Data Protection Act 2018 and the Environmental Information Regulations 2004).

If you want the information that you provide to be treated as confidential please tell us, but be aware that we cannot guarantee confidentiality in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not be regarded by us as a confidentiality request.

We will process your personal data in accordance with all applicable UK and EU data protection laws. See our privacy policy.

We will summarise all responses and publish this summary on GOV.UK. The summary will include a list of names or organisations that responded, but not people's personal names, addresses or other contact details.

Quality assurance

This consultation has been carried out in accordance with the government's consultation principles.

If you have any complaints about the way this consultation has been conducted, please email: beis.bru@beis.gov.uk.

Introduction

1. There is a global consensus that carbon capture usage and storage (CCUS) is likely to be essential to successfully tackling climate change and meeting the ambitions of the Paris Agreement. Domestically, CCUS is likely to play an essential role in meeting our net zero target.

2. The deployment of CCUS will also be central to supporting the low carbon transformation of the UK's industrial base and to achieve the Government's mission, announced in the Industrial Strategy, to establish the world's first net-zero carbon industrial cluster by 2040, and at least one low-carbon cluster by 2030.

3. Central to deploying CCUS is putting in place carbon dioxide infrastructure to transport and permanently store the carbon dioxide. This carbon dioxide infrastructure is vital to enabling the UK to scale-up CCUS deployment as required. Government has been working with the industry to examine possible new business models for carbon dioxide transport and storage and we are consulting separately on these potential models.[1]

4. However, the development of a transport and storage network for carbon dioxide will require large upfront capital expenditure. This upfront capital is particularly needed to construct carbon dioxide offshore and onshore pipelines and develop carbon dioxide storage sites and wells, alongside associated infrastructure including compressor stations and injection equipment. Whilst these initial construction costs are likely to be relatively high, once built, operating costs would be relatively low.

5. Alongside this, there is also the potential to reduce the costs of deploying carbon dioxide infrastructure which we are keen to see through the re-use of appropriate existing offshore oil and gas infrastructure. Re-use involves re-purposing offshore oil and gas assets that have reached the end of their commercial life for producing hydrocarbons to be part of a carbon dioxide transport and storage network.

6. This presents an opportunity to both CCUS projects and to oil and gas operators, which has been highlighted in a number of recent reports to Government (see Box 1). By re-using oil and gas assets, some CCUS projects may be able to save significant capital expenditure.

Box 1 – reports recommending re-use for CCUS

A number of recent reports to Government have outlined the case for re-use of oil and gas infrastructure for CCUS projects:

- The Parliamentary Advisory Group on Carbon Capture and Storage[2] argued that there were significant advantages to the UK developing CCS technologies due to the opportunity to re-use already existing oil and gas assets to reduce costs.

[1] https://www.gov.uk/government/consultations/carbon-capture-usage-and-storage-ccus-business-models
[2] Lowest Cost Decarbonisation for the UK: The Critical Role of CCS - Report to the Secretary of State for Business, Energy and Industrial Strategy from the Parliamentary Advisory Group on Carbon Capture and Storage (CCS) (September 2016) http://www.ccsassociation.org/news-and-events/reports-and-publications/parliamentary-advisory-group-on-ccs-report/

- The CCUS Cost Challenge Taskforce[3] highlighted the importance of re-use arguing that the "strategic re-use of existing oil and gas assets" is an important step to realising cost reductions and that a CCUS cluster will need "assets that could be re-used for CO_2 transport and storage (where appropriate)".
- The Scottish Affairs Committee[4] has stated that: "oil and gas infrastructure has the potential to be re-used for CCUS and it would be regrettable if this potential was lost due to a relatively short gap between infrastructure being decommissioned and CCUS becoming commercially viable."
- The Public Accounts Committee's *Public cost of decommissioning oil and gas infrastructure*[5] recognised the value that re-use of oil and gas assets could have for both CCUS projects and for oil and gas owners and operators.

7. Re-use of offshore oil and gas infrastructure is proposed in a number of developing UK CCUS projects (see Box 2), and was an integral part of the previously proposed Peterhead CCS project in North East Scotland. Re-use is also currently being considered in CCUS developments in the Netherlands (see Box 3). In addition, the Oil and Gas Authority (OGA) is undertaking a project to explore the potential for a more integrated offshore energy sector, which includes scoping the options for re-use of infrastructure for CCUS.

Box 2: Case studies (Acorn and HyNet North West)

There are CCUS projects in the UK that are proposing to re-use a range of different types of infrastructure to lower costs, including:

- Project Acorn[6] is a CCUS project in North-East Scotland centred at the St Fergus gas terminal. The project is proposing to commission in the early 2020s initially capturing carbon dioxide from the St Fergus gas terminal. The proposals include re-use of trunk pipelines leaving the terminal that connect to the Captain sandstone storage formation.
- HyNet North West[7] is a CCUS project in North-West England based on capturing carbon dioxide from industrial sources (phase 1) and the production of hydrogen from natural gas (phase 2). The project is targeting commissioning in the early-to-mid 2020s and is aiming to re-use a range of existing infrastructure that connects the point of Ayr terminal to the Liverpool Bay gas fields.

[3] Delivering Clean Growth: CCUS Cost Challenge Taskforce report https://www.gov.uk/government/groups/ccus-cost-challenge-taskforce#report
[4] Scottish Affairs Committee: The future of the oil and gas industry https://publications.parliament.uk/pa/cm201719/cmselect/cmscotaf/996/99602.htm
[5] Public Accounts Committee: Public cost of decommissioning oil and gas infrastructure: https://www.parliament.uk/business/committees/committees-a-z/commons-select/public-accounts-committee/inquiries/parliament-2017/inquiry114/
[6] Project Acorn https://actacorn.eu/
[7] HyNet https://hynet.co.uk/

Box 3: The Netherlands

The opportunity for re-use to drive down costs of CCUS projects has also been recognised internationally. The Porthos Project[8] in the Netherlands is considering re-use of existing oil and gas assets as part of their proposals. Alongside this, EBN, the state-owned oil and gas organisation in the Netherlands, recently published a report, 'Netherlands masterplan for decommissioning and re-use', highlighting re-use as an opportunity in the coming years.

8. The Government, in its CCUS Deployment Pathway: An Action Plan[9] recognised this opportunity, and the role that re-use could play in supporting government and industry to meet its CCUS ambitions. That is why we committed to carrying out the following actions:

   Action 1: We will complete a process, with the OGA, industry and The Crown Estate and The Crown Estate Scotland, in the first half of 2019 which identifies existing oil and gas infrastructure that has the potential for re-use to support the development of CCUS in the UK; and

   Action 2: We will, in consultation with the OGA, Health and Safety Executive (HSE), Marine Management Organisation (MMO), Ofgem, industry, The Crown Estate, and The Crown Estate Scotland, develop a policy on re-use of infrastructure for CCUS in the first half of 2019.

9. Given the complexity of the issue and the importance of engaging across the oil and gas and CCUS industries we have decided to consult first on both these actions, before setting out the Government's final position by the end of 2019.

10. The following pages set out our thinking to date, along with a provisional identification of infrastructure that could be valuable for re-use and the preferred policy option to help facilitate the re-use of offshore oil and gas assets for CCUS projects. In developing these we have engaged widely across both the oil and gas sector, and with the CCUS industry alongside the Oil and Gas Authority, The Crown Estate, The Crown Estate Scotland and the Health and Safety Executive.

11. The aim of this consultation is to help facilitate the deployment of CCUS by considering possible re-use of existing oil and gas infrastructure. Nothing in this consultation is intended to diminish the decommissioning obligations which may be imposed upon the owners or operators of carbon storage installations, submarine pipelines or other infrastructure installed or maintained for the purposes of carbon dioxide storage activities (including in connection with section 30 of the Energy Act 2008). In relation to re-use of assets, any proposals must ensure that they do not present any additional exposure to the Exchequer.

[8] Porthos Project https://www.rotterdamccus.nl/en/
[9] The UK carbon capture, usage and storage (CCUS) deployment pathway: an action plan https://www.gov.uk/government/publications/the-uk-carbon-capture-usage-and-storage-ccus-deployment-pathway-an-action-plan

Identification of oil and gas infrastructure that have reuse potential for CCUS projects

12. The UK has a substantial network of offshore oil and gas infrastructure in the North and East Irish seas. This includes upwards of 300 platforms and 1000 pipelines. An increasing amount of this infrastructure is being decommissioned as assets reach the end of their useful economic lives for continued hydrocarbon production. The OGA estimate[10] that the total cost of decommissioning these assets will be between £40 – 67 billion, with £16.8 billion of this being paid by the Exchequer due to the current regime of decommissioning tax relief[11].

13. A small number of these assets could be re-used as part of the transport and storage infrastructure of a CCUS project.

14. In order to provide clarity to the oil and gas and CCUS sectors, and help facilitate the effective re-use of oil and gas assets for CCUS projects, we have carried out a provisional identification of:

    i) which types of infrastructure have most reuse potential for CCUS;

    ii) the factors that it is important to consider when deciding upon whether infrastructure is re-useable; and

    iii) a list of specific assets that have been highlighted through our engagement as having re-use potential to CCUS projects.

Discussion on type of infrastructure

15. There is a range of different types of oil and gas infrastructure in the North and East Irish seas. However, only a small proportion of these are ever likely to have significant potential for re-use as part of a CCUS project. Through discussions with stakeholders we have identified those types of infrastructure which are likely to, across a range of different projects, have potential for re-use:

- **Depleted oil and gas reservoirs**: Depleted oil and gas reservoirs have been identified as key resources for the geological storage of carbon dioxide. It is particularly advantageous that these depleted reservoirs will likely have been appraised and monitored extensively by the previous operators. This should mean the subsurface is well characterised which can support accurate modelling of the carbon dioxide injection. However, these reservoirs will have had a number of wells drilled into them which could be at risk of corrosion, especially if they are not plugged and abandoned to a carbon dioxide safe standard. It is important that reasonable actions which can mitigate

[10] The OGA 2019 UKCS Decommissioning Cost Estimate Report https://www.ogauthority.co.uk/news-publications/publications/2019/ukcs-decommissioning-cost-estimate-2019-report/
[11] Statistics of Government revenues from UK Oil and Gas production https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/818296/Statistics_of_government_revenues_from_UK_oil_and_gas_production_July_2019.pdf

corrosion are taken and form part of the carbon dioxide storage appraisal and carbon dioxide permit application processes;

- **Wells**: Wells are used to explore for and extract hydrocarbons from oil and gas reservoirs and could be re-used to inject carbon dioxide into the depleted reservoir. However, it is likely to be less common to re-use wells as they would need to be already situated in the correct location in the field and meet the required safety standards for this alternate purpose;

- **Trunk Pipelines**: These are large pipelines that transport oil and gas from offshore facilities to the mainland. Trunk pipelines can often be hundreds of kilometres long and typically have a large diameter. Dependent on the condition and location of trunk pipelines there may be significant advantage in re-using these pipelines to transport carbon dioxide, in either gaseous or dense phase, from the UK mainland to offshore storage sites. Doing so could bring significant cost and time savings;

- **Platforms**: Platforms are offshore assets that are used to produce, process and sometimes store oil and gas. Platforms can be either fixed to the seabed or float semi-submerged on the surface. Some of these platforms can be largely automated and are known as Normally Unmanned Installations (NUIs). Based on stakeholder discussion we understand that, whilst in some cases there may be an advantage to re-using platforms as part of the transport and storage infrastructure for a CCUS project, this is likely only to be the case in some specific circumstances; and

- **Other infrastructure**: There are several other types of infrastructure, ranging from subsea manifolds to well and fields data, that may have some value for certain projects. However, we do not view there to be a strong case for government intervention to preserve these assets, either because they are likely to have low re-use value in general, or because they could be transferred as part of a commercial transaction.

Question 1: Have we identified the correct types of oil and gas infrastructure that are likely to be important for re-use in CCUS projects?

Discussion on criteria

16. Within the types of infrastructure that we have highlighted as being important for re-use to the UK to support the development of CCUS, only some will be suitable of re-use for CCUS projects. As such, we have identified a list of factors that due consideration would need to be given to before deciding upon the re-use ability, or otherwise, of a specific asset for the purposes of CCUS:

- **Location**: The location of any infrastructure will be a key criterion in deciding its importance as part of a CCUS project. Assets that are close to both viable carbon dioxide storage sites and to mainland sources of carbon dioxide may be more attractive for re-use, and those that are far away may be of little use. Alongside this, the location of wells within a reservoir will likely be a key criterion in evaluating their re-use potential;

- **Size**: The capacity of the infrastructure, including pipelines, wells and depleted reservoirs, will affect its potential for re-use. In principle larger infrastructure is likely to be more valuable for re-use due to the higher costs associated with any replacement or new construction;

- **Age**: All types of infrastructure, regardless of how well maintained, will degrade over time. A range of issues, such as corrosion or lack of relevant data, may arise with older assets. Moreover, the asset life for re-use is likely to be shorter for older assets than for more recent installations due to the degradation they will have faced over their lifetime;

- **Condition**: Age is not necessarily an indication of an asset's suitability for re-use, and the length of time the asset is in use may affect its condition. For example, platforms (fixed or semi-submersible) will require reboarding to undertake inspections and/or repairs and the structure must be structurally sound enough to allow this;

- **Reservoir integrity and appropriateness**: There are several considerations that will need to be made around the feasibility of storing carbon dioxide safely in a depleted oil or gas reservoir. This includes consideration of the appropriateness of the reservoir pressure for carbon dioxide injection, the competency and integrity of the reservoir seal and the geochemical compatibility of the reservoir formation and seal with the carbon dioxide;

- **Pressure**: Carbon dioxide is likely to be transported and injected at high pressures. Ensuring that any infrastructure that is re-used is capable of bearing the high pressures required will be necessary. Additionally, understanding how the pipeline behaves in the event of an unintentional release of fluids is also important;

- **Metallurgy and materials**: When mixed with water, carbon dioxide will produce corrosive acidic mixtures. Ensuring the absence of free water from the carbon dioxide stream and/or that any infrastructure proposed for re-use is made of corrosion resistant alloys where free water can be expected will be important. Similarly, certain cements may be corroded by carbon dioxide mixtures and due consideration will need to be given to this when considering the materials used in wells candidate for CCUS reuse or to be plugged and abandoned;

- **Pipeline integrity**: Trunk pipelines will degrade over time through use and exposure and in order for them to be re-used it is important that their design and integrity has not been compromised, allowing sufficient service life for carbon dioxide transport. Considerations here will involve the effects of internal corrosion on wall thickness; the degradation of external corrosion prevention systems, such as coatings and cathodic protection; and the pipeline installation conditions including the presence of free spans and the risk of buckling;

- **Data**: Across all the full range of assets that could be considered for re-use the presence of adequate data to understand the condition that they are in will be an important consideration; and

- **Costs**: Across all of the above factors there are likely to be a range of actions that could be taken to mitigate risks and increase the re-usability of an asset, however these are likely to come at increased costs. In general, an asset that is cheaper to re-use is likely to be more valuable than one that is more expensive.

Question 2: Are there additional or different criteria that would need to be considered when assessing whether a piece of offshore infrastructure is re-useable as part of a CCUS project?

List of specific infrastructure

17. Based on a preliminary assessment of the UK oil and gas infrastructure against the above criteria, and through engagement with stakeholders we have developed an initial list of specific items of infrastructure that we currently consider are most likely to have potential for CCUS re-use. This is presented in Table 1. This list is not expected to be exhaustive but rather an indication of the existing assets that could potentially be re-used. Each asset identified would need to be evaluated in full technical detail to confirm its re-use potential and suitability in terms of, for example, its safety for change of use and re-use. We will continue to work with both the oil and gas and CCUS industries, and the relevant regulators, to ensure that existing and future oil and gas assets with re-use potential for CCUS will continue to be identified. The inclusion of any asset on this list does not indicate that it will be made eligible for 'Change of Control Relief' or that a proposal related to the suspension of that asset will be approved (see paragraph 25 onwards).

Table 1 - Infrastructure most likely to have potential for re use

Asset name:	Asset type
Goldeneye	Pipeline
Atlantic and Cromarty	Pipeline
The Miller Gas system	Pipeline
Hamilton (HyNet pipelines)	Pipeline

18. A more complete list of oil and gas pipelines and carbon dioxide storage sites in UK waters that could be suitable for re-use as part of a CCUS project is included in Annex A, alongside a map (Figure 1) of these UK offshore infrastructure and potential carbon dioxide storage sites.

Question 3: Do you agree with this preliminary assessment? Should any specific assets detailed in Table 1 or in Annex A be removed? Should any assets be added to these lists? Please provide justification using the referenced criterion for your answer.

Policy to help facilitate the re-use of oil and gas assets for CCUS projects

Background

19. Re-use of offshore oil and gas infrastructure presents multiple opportunities to CCUS projects. Evidence presented to Government suggests that by re-using trunk pipelines CCUS projects could save significant amount of capital expenditure, some estimates of this are upwards of £100 million capital saving per pipeline. Re-purposing depleted oil and gas fields for carbon dioxide storage could also save significant costs but effort needs to be made to ensure that wells drilled into these reservoirs are plugged and abandoned safely and in a fashion which increases their robustness to corrosion. Additionally, in some specific cases, wells may be re-used to inject carbon dioxide into a depleted reservoir however, as set out in **paragraph 15,** this is likely to only be feasible in some specific circumstances.

20. Alongside this, re-use may have benefits and bring cost savings to the existing owners and operators of these oil and gas assets. The UK's offshore decommissioning regime requires owners and operators of offshore installations and submarine pipelines to decommission when assets reach the end of their operational lives. The costs of this decommissioning can be significant.

21. We do recognise that there may currently be a number of challenges to overcome in re-using assets for CCUS projects. These include:

- Some oil and gas assets that have potential for re-use are likely to be decommissioned in the coming years before CCUS projects may be willing and able to take ownership of them;

- Whilst it may be possible to defer decommissioning of offshore oil and gas assets to a date that would increase the likelihood of an asset being transferred to a CCUS project this would result in essential ongoing monitoring and maintenance costs being incurred by the asset owner; and

- The decommissioning regime which applies in respect of offshore oil and gas infrastructure means that in the event that the current owner is not capable of meeting their decommissioning obligations, the Secretary of State can call upon previous owners and operators to decommission the infrastructure. This uncertainty and the risk of additional decommissioning costs may provide a disincentive to transfer these assets and as a result the assets may be decommissioned rather than sold for re-use.

Question 4: Are there any additional substantial barriers to the effective transfer of assets? If yes, please provide evidence for your answer.

Proposal

22. In that context we are proposing to implement policy and legislative changes that will address these challenges and facilitate the transfer of assets from oil and gas owners

and operators to CCUS projects, including by supporting the retention of assets that could be important for CCUS projects but may otherwise be decommissioned.

23. In line with our assessment outlined in **paragraph 15** we expect that this policy should apply only to submarine pipelines and wells and not to other assets such as platforms given their case by case nature. Additionally, our proposed policy will be a targeted one, applying only to the small number of these submarine pipelines and wells that have significant potential for re-use for CCUS. This potential will be assessed by BEIS, the OGA and industry using guidance developed based on the list of factors set out in **paragraph 16**.

24. However, we are clear that any policy to support the re-use of oil and gas assets for CCUS projects should not have a wider impact on the UK's well developed and robust offshore decommissioning regime. Similarly, we are clear that all assets, whether re-used or not, will ultimately need to be decommissioned.

Question 5: Are changes to the current policy and legislative regimes needed to help facilitate the re-use of oil and gas assets for use as part of a CCUS project?

Decommissioning obligations for previous owners and operators of assets transferred to CCUS projects

25. In order to facilitate the sale of pipelines that have reached the end of their commercial life for extracting hydrocarbons, we propose to give the Secretary of State the discretionary power to relieve former oil and gas owners and operators from decommissioning liability under Part 4 of the Petroleum Act 1998 in respect of assets which have been transferred to a CCUS project (such that they cannot be made liable for decommissioning solely because they had an interest in the relevant asset during the period in which it was used for oil and gas related purposes). As above, nothing in this consultation is intended to diminish the decommissioning obligations which may be imposed upon the owner or operators of carbon storage installations, submarine pipelines or other infrastructure installed or maintained for the purposes of carbon dioxide storage activities (including in connection with section 30 of the Energy Act 2008).

26. This power would only be exercised in situations in which the total liability the UK Government may face is no greater than the total liability prior to the transfer of the asset(s) to the CCUS project. Additional requirements would also be put in place to ensure the overall risk is being appropriately managed. The Secretary of State would not be under any obligation to exercise this power.

Background on the decommissioning obligations under the Petroleum Act 1998

27. Section 29 of the Petroleum Act 1998 enables the Secretary of State to serve notices regarding offshore installations and submarine pipelines requiring the notice holder(s) to prepare a decommissioning programme at a time requested by the Secretary of State. The legislation is designed to meet the policy aim of ensuring that those who have benefitted from the exploitation or production of hydrocarbons in a particular field

are required to undertake, and pay for decommissioning the relevant infrastructure at the end of the field's economic life, the "polluter pays" principle. Once a decommissioning programme has been approved by the Secretary of State, the persons who submitted it are under obligation to carry out the programme, and failure to do so is an offence.

28. When a company buys an interest in a field and thus has the potential to derive benefit, consideration is given to serving it with a section 29 notice and conversely when a company ceases to benefit (e.g. on sale of its interest) a decision is taken on whether it should have its section 29 notice withdrawn. Since section 29 notices are not automatically withdrawn when a company ceases to benefit, companies who previously obtained a benefit from a field may be called upon to decommission the relevant infrastructure, even though they may no longer have any interest in the field. A section 29 notice is joint and several meaning that a company in receipt of such a notice can be liable for the full cost of decommissioning the field, not just their proportionate share. Section 29 notices are the key tools used to ensure that owners and operators of offshore installations and submarine pipelines are fixed with the obligation to decommission them at the end of their operational lives.

29. However, even if the Secretary of State does choose to revoke a section 29 notice, the former notice holder is not necessarily relieved of all liability in respect of the decommissioning of the relevant offshore installation or submarine pipeline.

30. That is because section 34 of the 1998 Act provides the Secretary of State with the power to require any former section 29 notice holder (or indeed any person on whom a section 29 notice could have been served following the date on which the initial section 29 notice was issued) to give effect to an approved decommissioning programme (although the Secretary of State will, of course, expect existing section 29 notice holders to carry out decommissioning works in the first instance).

31. Further guidance in respect of section 29 notices and decommissioning obligations under the 1998 Act can be found in the 'Guidance Notes Decommissioning of Offshore Oil and Gas Installations and Pipelines'[12] published by the Offshore Decommissioning Unit, the Offshore Petroleum Regulator for Environment and Decommissioning (OPRED) and the Department of Business, Energy and Industrial Strategy.

Summary of proposed legislative changes

32. Due to the lack of experience in industry, both in the UK and globally, of decommissioning CCUS facilities the precise nature of the activities required to do this is currently unknown. This leads to uncertainty which provides a disincentive for oil and gas asset owners and operators to transfer their interest in an asset to parties that will re-use them as part of a CCUS project, even when it is technically and economically viable to do so. This could result in either assets not being transferred, which could increase the costs for CCUS projects as new infrastructure must be built, or these assets being transferred at a disproportionate cost which is inefficient and again could increase the cost of CCUS projects.

[12] https://www.gov.uk/guidance/oil-and-gas-decommissioning-of-offshore-installations-and-pipelines

33. In order to remove this disincentive, we propose introducing a discretionary power for the Secretary of State to designate that an offshore installation or submarine pipeline is eligible for ‘Change of Control Relief’.

34. The consequence of being designated as eligible for ‘Change of Control Relief’ would be that once a particular ‘Trigger Event’ has occurred in respect of the offshore installation or submarine pipeline, the Secretary of State will no longer be able to impose a decommissioning liability on any person solely because they had an interest in that asset during the period in which it was used for oil and gas related purposes (either by issuing that person with a section 29 notice or by making use of the power at section 34 of the 1998 Act).

35. This would, when used in combination with his existing power to revoke a section 29 notice, allow the Secretary of State to relieve former section 29 notice holders (and any person who could otherwise be put under an obligation to carry out a decommissioning programme under section 34 of the 1998 Act) from any liability to decommission the relevant offshore installation or submarine pipeline for the purposes of Part 4 of the 1998 Act.

36. The decision to exercise either the power to designate an offshore installation or pipeline eligible for change of control relief or to remove any section 29 notices already issued for the purpose of facilitating CCUS re-use would be discretionary and the Secretary of State would not be under any obligation to exercise the power.

37. If the Secretary of State did decide to exercise this power in the future it would result in the CCUS project (or owner or operator in respect of the re-used submarine pipeline or offshore installation) being solely liable for decommissioning the relevant installation or pipeline as and when required, in accordance with the existing applicable decommissioning regime. This power would only be exercised in situations in which the total liability the UK Government may face is no greater than the total liability prior to the transfer of the asset(s) to the CCUS project. Additional requirements would also be put in place to ensure the overall risk is being appropriately managed. We do not believe that legislating for this change would increase the risks of the primary duty holder (the CCUS project or the owner or operator in respect of the re-used submarine pipeline or offshore installation) defaulting on their decommissioning obligation. The result of this intervention will not change the risks faced by CCUS projects taking ownership of assets as they would already be expected to factor the cost of decommissioning into their financial viability assessment.

38. There are a number of events or activities which could constitute the ‘Trigger Event’ for these purposes. The three we are currently considering are:

- The point at which ownership of the asset is transferred from the previous owners and operators to the CCUS project;
- At the point at which the associated CCUS project secures a permit from the OGA, or relevant authority, for offshore carbon dioxide storage; and
- The point at which the new CCUS project first injects carbon dioxide into any associated geological storage site.

39. To provide transparency and clarity to industry we propose to publish, alongside proposing new legislation, a framework for how the decision to remove these

decommissioning liabilities would be made. This will include proposals for the additional requirements that will be used to manage the overall risk appropriately.

40. Nothing in this proposal or wider consultation is intended to diminish the decommissioning obligations which may be imposed upon the owner or operators of carbon storage installations, submarine pipelines or any other infrastructure installed or maintained for the purposes of carbon dioxide storage activities (including in connection with section 30 of the Energy Act 2008).

Question 6: Do you agree that the proposed policy is an effective and proportionate measure?

Question 7: What event should be used as the point at which the Secretary of State could make a decision on removal of decommissioning obligations to previous duty holders?

Question 8: To what extent would the removal of the liability on previous owners to decommission a pipeline when it is transferred to a CCUS project encourage such a transaction?

Policy on the preservation of assets

41. A number of oil and gas assets that are suitable for re-use are likely to be decommissioned in the coming years before CCUS projects may be willing and able to take ownership of them. For oil and gas assets that have a re-use potential for CCUS projects, they will require some sort of preservation if they are to remain viable.

42. To help support the preservation of assets for CCUS projects we propose to work with OPRED and the OGA to amend policy guidance and processes regarding decommissioning to allow and encourage oil and gas asset owners to propose maintaining those assets for a period to support CCUS projects. This policy change would only be applicable to the small number of assets which have been identified by BEIS, the OGA and industry as having significant re-use potential, based on guidance developed using the criteria set out in **paragraph 16**, and have a demonstrable chance of being re-used within the timeframe outlined in **paragraph 45.**

43. For pipelines this will likely involve putting the asset into the interim pipeline regime and undertaking the appropriate monitoring and maintenance activities. Alternatively, this could also involve decommissioning the asset using methods that do not preclude its later re-use but are consistent with the wider offshore decommissioning regime.

44. Similarly, for wells, this would ideally involve putting the well in a suspended state. Where this option is not available, if for example it is not technically feasible or would significantly adversely affect a wider decommissioning programme, this could involve working to plug and abandon the well in a fashion that increases their robustness to corrosion.

45. We propose to allow assets to be suspended for a period of up to 10 years to allow a CCUS project to develop and the transfer of assets to take place, or for a period of time which is deemed technically feasible. In the event that a suspended asset has not been transferred to a CCUS project within this timeframe the normal decommissioning process would proceed.

46. We recognise that some of the activities required to maintain assets for re-use are likely to come at additional costs to the oil and gas asset owners and operators. However, this could be offset to some degree by the ability to delay the costs of decommissioning for a period of time and the potential to avoid the costs associated with decommissioning altogether.

47. To better understand the requirements of the above activities and to develop clear expectations and standards as part of the proposed policy the OGA in combination with OPRED, HSE and others will develop detailed guidance concerning what assets are re-useable and what actions are required to maintain them. This guidance will be based on the criteria set out in **paragraph 16.**

48. Where possible we propose that engagement with offshore oil and gas operators and CCUS projects to identify assets for re-use begins before the decommissioning cycle and propose that initial conversations on the re-use potential of an asset would be had alongside agreeing, with the OGA, the cessation of production date. This would allow early decisions to be taken on re-use providing clarity to both the oil and gas and CCUS industries.

49. In developing our policy on re-use, we have considered a number of alternatives beyond our preferred option, including making legislative changes to empower the Secretary of State to direct persons who either are liable or may be made liable to decommission an offshore installation or submarine pipeline under Part 4 of the Petroleum Act 1998 to suspend assets which have been identified as potentially valuable for re-use for a given period of time. However, we currently believe that this could be unduly onerous on duty holders and that our preferred policy option, outlined above, can be equally as effective.

50. The policy outlined above is compatible with carbon dioxide transport and storage business models being considered as part of a separate consultation on CCUS Business Models[13].

Question 9: Are there any monitoring or data collection activities, such as intelligent pigging, that it would be essential to carry out before preserving an asset for CCUS re-use?

Questions 10: Do you agree that the period of suspension should be up to 10 years? Please provide evidence for your response.

Question 11: Evidence presented to the Government to date suggests that the costs of maintaining pipelines or wells for re-use are relatively low and so financial support for this will likely not be required. Do you agree with this? Please provide evidence for your answer.

Question 12: Can you provide evidence on the increased ongoing liabilities that owners and operators may face from suspending assets for up to 10 years?

Question 13: Will plugging and abandoning wells to a standard which minimises the risks of carbon dioxide leakage in the associated field come at significant additional costs and, if so, who is best placed to bear this?

[13] https://www.gov.uk/government/consultations/carbon-capture-usage-and-storage-ccus-business-models

Consultation questions

Question 1: Have we identified the correct types of oil and gas infrastructure that are likely to be important for re-use in CCUS projects?

Question 2: Are there additional or different criteria that would need to be considered when assessing whether a piece of offshore infrastructure is re-useable as part of a CCUS project?

Question 3: Do you agree with this preliminary assessment? Should any specific assets detailed in Table 1 or in Annex A be removed? Should any assets be added to these lists? Please provide justification using the referenced criterion for your answer.

Question 4: Are there any additional substantial barriers to the effective transfer of assets? If yes, please provide evidence for your answer.

Question 5: Are changes to the current policy and legislative regimes needed to help facilitate the re-use of oil and gas assets for use as part of a CCUS project?

Question 6: Do you agree that the proposed policy is an effective and proportionate measure?

Question 7: What event should be used as the point at which the Secretary of State could make a decision on removal of decommissioning obligations to previous duty holders?

Question 8: To what extent would the removal of the liability on previous owners to decommission a pipeline when it is transferred to a CCUS project encourage such a transaction?

Question 9: Are there any monitoring or data collection activities, such as intelligent pigging, that it would be essential to carry out before preserving an asset for CCUS re-use?

Questions 10: Do you agree that the period of suspension should be up to 10 years? Please provide evidence for your response.

Question11: Evidence presented to the Government to date suggests that the costs of maintaining pipelines or wells for re-use are relatively low and so financial support for this will likely not be required. Do you agree with this? Please provide evidence for your answer.

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Question 13: Will plugging and abandoning wells to a standard which minimises the risks of carbon dioxide leakage in the associated field come at significant additional costs and, if so, who is best placed to bear this?

Annex A – [See separate attachment]

This consultation is available from: www.gov.uk/government/consultations/carbon-capture-usage-and-storage-ccus-projects-re-use-of-oil-and-gas-assets

If you need a version of this document in a more accessible format, please email enquiries@beis.gov.uk. Please tell us what format you need. It will help us if you say what assistive technology you use.