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Consultation – summary of response

Carbon Capture and Storage

A summary of responses to a consultation on the preferred policy position on Carbon Capture and Storage.

October 2025

Mae'r ddogfen hon ar gael yn Gymraeg hefyd / This document is also available in Welsh
Rydym yn croesawu gohebiaeth a galwadau ffôn yn Gymraeg / We welcome correspondence and telephone calls in Welsh

 Digital ISBN

Overview

This report presents a summary of the views of respondents on a preferred policy on Carbon Capture and Storage. The utilisation of CO_2 will be addressed as a separate policy matter.

Action Required

This document is for information only.

Further information and related documents

Large print, Braille and alternative language versions of this document are available on request.

Contact details

For further information:

Energy Division
Welsh Government
Cathays Park
Cardiff
CF10 3NQ

Email: energypolicymailbox@gov.wales

Additional copies

This summary of response and copies of all the consultation documentation are published in electronic form only and can be accessed on the Welsh Government's website.

Link to the consultation documentation:CCUS Consultation Dec 2024

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Carbon Capture, Utilisation and Storage Consultation Response Summary

Introduction

In December 2024 the Welsh Government issued a consultation on its preferred strategic policy on carbon capture and storage. The utilisation of CO_2 will be addressed as a separate policy matter.

Welsh Government's preferred policy on carbon capture, utilisation and storage [HTML] | GOV.WALES

The consultation set out our preferred policy position as part of the Welsh Government's response to the climate and nature emergencies. The consultation ran from 2 December 2024 to 24 February 2025, and sought views on a policy that would support carbon capture and storage where:

- it makes a clear contribution to decarbonisation and the economy, and
- there are no reasonable alternatives to reduce emissions, and,
- its deployment does not unnecessarily prolong the use of fossil fuels.

The consultation sought the views of industry, the public and other stakeholders.

This report summarises the issues raised in the consultation responses, and provides the Welsh Government response to these issues.

We have considered and noted every response during our analysis and response development. However, we have aimed to keep summaries succinct and focused on the points that directly answered the questions. Some stakeholders provided general responses, as opposed to responding directly to individual questions, and may have provided additional evidence/annexes alongside their submissions. Whilst these are not included in the scope of the document below, these have and will continue to be considered as our policies are developed.

Responses to the Consultation

Overall response

A total of 36 consultation responses were received, via email or online submissions. Respondents were not asked to categorise themselves as part of the consultation, however, it has been possible to generate a breakdown of the nature of the respondents. There was a broad mix of respondents from industry (11), industry representative bodies (6), Government bodies (4), Academia (3), individuals (11) and other (1).

The consultation comprised of 11 questions, of which, questions 1-5 concerned views on the proposed policy, questions 6 and 7 considered the impact on the Welsh language, question 8 allowed for respondents to provide general information related to carbon capture and storage, and questions 9-11 sought geographical information.

Some questions generated a clear yes or no response, whereas other responses were nuanced with additional information and context provided by responders. Not all respondents answered all questions. However, only those responses that were formally submitted, either by email or pressing the submit button on the online survey, were considered within the analysis.

Figure 1 provides a high-level analysis of questions 1-4, where agree and supportive, or disagree and unsupportive statements, are combined to form an overall view. Figure 1 suggests that overall, the proposed strategic policy was viewed favourably.

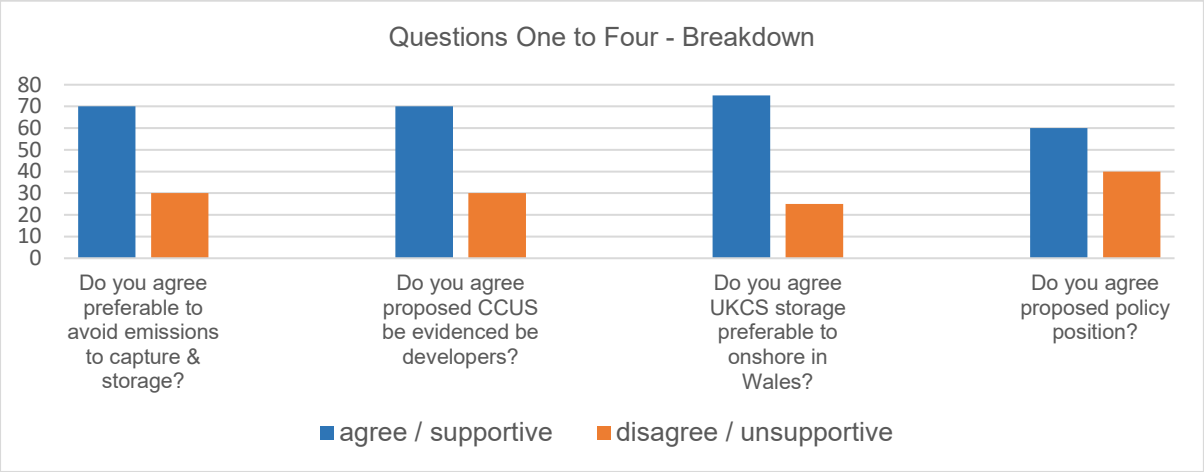

Figure 1 – Analysis of question 1-4 submissions

Description of Figure 1 - Question 1 70% agreed, 30% disagreed. Question 2 70% agreed, 30% disagreed. Question 3 75% agreed, 25% disagreed. Question 4 60% agreed, 40% disagreed.

However, it is clear from the responses that both supportive and unsupportive statements are nuanced and qualified on key issues. A detailed analysis of the questions is presented below.

Question 1

Do you agree that avoiding the generation of emissions is preferable to capturing and storing emissions?

There were thirty-three responses to question one. Nineteen responses clearly indicated agreement with the policy objective that avoiding the generation of emissions is preferable to capturing and storing emissions. Nine responses disagreed with this objective. Four responses partially agreed, and one partially disagreed.

The responses for question one and two comprised of significant overlap and duplication, and therefore, these issues are discussed in depth only once, and against the question that first elicited the response. The key themes that emerged from the responses to question one were:

The majority of responses agreed with the principle that avoiding the generation of emissions is preferable to capturing and storing emissions.

The majority of responses agreed with the principle that avoiding the generation of emissions, through using renewable energy, fuel switching and efficiency gains, is preferable to capturing and storing emissions. There was broad agreement across responses that a balanced approach is necessary, combining an emission reduction approach and fuel switching alongside targeted deployment of carbon capture and storage, to maximise decarbonisation and wider economic and environmental benefits.

However, it was argued strongly that for some industries avoiding emissions was not always technically or economically viable, in particular cement and energy from waste, and that some sectors have already reached practical limits on the emissions that can be avoided.

Concerns were also raised about the availability of hydrogen (an option for fuel-switching), the rate of deployment of renewable energy in Wales, and the rate of associated grid network improvements would not meet the demands of industry looking to fuel-switch in the near to midterm.

The majority of responses recognised that carbon capture and storage is essential to delivering decarbonisation for hard to abate sectors.

Many respondents referenced the established views of national and international bodies such as the Climate Change Committee, the National Energy Systems Operator, the Intergovernmental Panel on Climate Change, and the International Renewable Energy Agency, which have concluded that carbon capture and storage is essential to decarbonise those hard to abate industries where emissions are currently unavoidable. It was also argued that the UK Government, implicitly supported by Welsh Government (through accepting the Climate Change Committee recommendations, working with CCS clusters and its published Net Zero strategy), has already identified CCS as strategically essential to reaching net-zero both for energy generation and industrial emissions.

Therefore, any requirement that developers justify the decarbonisation capability of CCS was not justified or necessary. Furthermore the requirement on developers to consider alternatives to CCS could delay or inhibit the deployment of CCS. Respondents accepted CCS is a transition technology but also stressed its

deployment would not unnecessarily extend fossil fuels but will accelerate decarbonisation while maintaining investment in a reliable energy system.

Consultation responses identified key industries entirely or partially reliant on CCS for emission reduction as being cement manufacture, fossil fuel refining, energy generation, and waste management (both reduction and energy production). It was noted for some industries, particularly the production of cement, that most of their emissions are a function of the manufacturing process, not the combustion of fossil fuels for energy, thereby limiting options to avoid emissions. Respondents also suggested that for the waste management industry, CCS abated Energy from Waste (EfW) was seen as preferrable to sending unrecyclable waste to landfill.

Some responses suggested the reality of achieving net-zero within the energy generation and industrial sector was not possible without CCS, especially given the scale of emissions and the complexity of fuel switching in some circumstances.

Many responses highlighted that CCS was an economic opportunity for Wales, in addition to being critical to decarbonisation, and that the Welsh Government should work more closely with the UK Government to progress CCS clusters.

Concerns were raised that storing emissions would allow for continued use of fossil fuels, and that this could detract investment from renewable energy.

Concerns were raised that the substantial costs of investing in carbon capture, transport and storage infrastructure could detract investment from fuel switching.

These responses viewed CCS as an expensive process and an energy intensive approach to decarbonisation compared to other measures such as fuel switching to renewable energy. Respondents were concerned that without careful management, CCS technology risks a business-as-usual scenario for fossil fuel consumption.

These responses stressed CCS is not an alternative to emission avoidance but should be viewed as a critical decarbonisation technology only where other options were not technically or economically viable. These responses also sought transparency on how and why CCS was being deployed. For example, there were concerns around processes such as enhanced oil recovery using CO_2 injection being conflated with CCS.

Responses raised concerns around the possibility of the proposed policy creating administrative burden that could stymie investment in Wales.

Responses requested greater clarity around the evidence required to satisfy the policy. There were also some concerns raised that the proposed policy would introduce additional consenting barriers to the deployment of CCS in Wales, when compared to Scotland and England, which could harm investment in decarbonisation in Wales. Respondents highlighted that investment in CCS was critical to economic growth, sustainability, energy security and a just-transition for communities and industry. Therefore, the policy should not create any unnecessary barriers to development.

Responses noted that “utilisation” was not adequately addressed.

Responses noted that “utilisation” is not adequately covered in the policy. Some responses encouraged the utilisation of captured carbon where viable, to reduce storage needs, and to strengthen the circular economy, ensuring long term sustainability, some going further to suggest CCS is wasting resources.

Welsh Government response to Question 1

Welsh Government recognises the vital importance of CCS, and that the UK Government has made clear CCS and hydrogen are the primary means of decarbonisation where efficiency gains and renewable energy is not economically or technically feasible. The Welsh Government also recognises the views of the UK Climate Change Committee (UKCCC) and Intergovernmental Panel on Climate Change (IPCC) that CCS is necessary to reach net zero and for some industries CCS is the only option. We also recognise the economic potential of CCS to decarbonise existing industries and allow them to grow and operate sustainably and the potential to develop new supply chains as part of a green economy.

Equally, Welsh Government agrees with the broad scientific consensus that CCS is not a silver bullet and that every attempt must be made to prevent the greenhouse gases being generated in the first instance. We see a role for targeted implementation of CCS technology where it will accelerate emissions reduction during the transition away from fossil fuels.

Therefore, the policy will make clear the purpose of using CCS must be in order to reach net zero emissions and should not be used as a substitute for other climate action, or to avoid emission reductions at source. It is proposed that CCS is most effectively deployed where these options are not economically or technically feasible. Where CCS is necessary, Welsh Government will work with industry, regulators and UK and Scottish Governments to ensure it is deployed effectively in Wales.

Welsh Government maintains that decarbonisation through the avoidance of emissions should be prioritised, both to encourage the transition away from fossil fuel extraction and consumption, but also to ensure emerging, and currently limited CCS infrastructure is targeted to where it delivers the greatest decarbonisation, economic and well-being outcomes. Welsh Government recognises that for some industries emission reductions or fuel switching may not be economically or technically feasible, for example where emissions are intrinsic to an industrial process rather than combustion, or where hydrogen is not available in sufficient quantities. The percentage of non-combustion emissions varies sector to sector but the non-combustion share of our National Atmospheric Emission Inventory for industry and business sector is estimated to be 17%. CCS offers a potential decarbonisation pathway for these industries.

The deployment of CCS requires considerable development expenditure, capital expenditure, plus ongoing transportation and storage costs. The Welsh Government considers it very likely that developers will give thorough consideration to exploiting fuel switching and efficient measures before CCS due to the costs of CCS, but also the Planning Policy Wales (PPW) energy hierarchy and other measures to promote renewable energy.

Welsh Government expects all new development to mitigate the causes of climate change in accordance with the energy hierarchy for planning, as set out in the Planning Policy Wales energy policies. The energy hierarchy will remain an important consideration for energy related planning decisions, even where CCS abatement is proposed, i.e. the deployment of CCS would not absolve a developer from complying with the energy hierarchy. The policy has been re-drafted to emphasise that the CCS strategic policy should not be viewed in isolation, but together with the full weight of policy and legislation that will drive CCS deployments towards genuine net decarbonisation gains.

Welsh Government does not expect developers in Wales to justify or evidence the effectiveness of CCS as a decarbonisation technology in terms of domestic and global emissions. Welsh Government does expect developers in Wales to evidence that they are making the best use of technology, given the specific nature of their facilities, to deliver decarbonisation and wider economic and well-being objectives. Welsh Government considers this approach to be consistent with existing planning and regulatory requirements for other energy and industrial related industries.

The proposed policy does not introduce new evidence requirements, it provides further context to the existing evidence requirements in the statutory consenting regimes (planning, environmental permitting and licensing). We do agree that the evidence requirements need to be more clearly defined in the policy and better linked to existing consenting requirements. Further guidance will be published to assist developers**.**

Respondents commented that the policy did not address utilisation of CO_2. The policy is focused on and is applicable only to geological storage. The utilisation of CO_2 will be addressed as a separate policy matter.

Question 2

Do you agree that, where CCUS is proposed, developers must evidence that its use will not un-necessarily increase or extend the overall use of fossil fuels or our dependency of fossil fuel? If no please provide your answer.

There were thirty-three responses to Question two. Nineteen responses clearly indicated agreement with the policy objective of avoiding the unnecessary increase or extension of fossil fuel use. Nine responses disagreed with this objective. Four responses partially agreed, and one partially disagreed.

The key themes that emerged from the responses to question two are analysed below:

Concerns were raised that the policy objective to avoid unnecessarily extending the use of fossil fuels could create an excessive evidence burden, and stymie developments in sectors where fossil fuel consumption was currently unavoidable.

There was general support for the policy objective of CCS not unnecessarily increasing or extending the overall use or dependency of fossil fuels. Some responders felt strongly that developers must prioritise and demonstrate clear plans to transition towards renewable energy, increased energy efficiency, and fuel switching. These responses tended to view CCS technology as a supplementary technique, complementing other efforts to decarbonise, and to be deployed only when the avoidance of emissions was not technically or economically viable.

A number of responses supported the requirement to provide evidence of not unnecessarily extending the use of fossil fuels as a requirement of deploying CCS. Responses considered the requirement to be a reasonable request, and that it is aligned with other European regions which place a similar evidence burden on developers.

Some responses even requested a higher burden, advising the word “unnecessarily” to be removed from the policy, suggesting a high priority be placed on reducing all fossil fuel consumption. Within these responses, there was some acceptance CCS may be the only feasible decarbonisation options in some industry sectors, but that industry and government should work closer together to ensure appropriate and targeted utilisation of technologies.

However, it was argued strongly that for some industries, avoiding emissions was not technically or economically viable, in particular cement and energy from waste. These responses referenced analysis reported by the Climate Change Committee that confirmed fossil fuel consumption would continue to decrease but would remain an important part of the Welsh and UK economies in 2050, further emphasising the need to address unavoidable emissions via CCS.

Some respondents stressed if fossil fuels are considerably cheaper than their low-carbon alternatives, or if existing infrastructure was better suited to fossil fuels, user demand for fossil fuels may continue, further necessitating wider support of CCS. These responses also suggested continued analysis of short, medium and long-term fossil fuel consumption was required to inform any policy on CCS and decarbonisation.

Responses highlighted the necessity of CCS for blue hydrogen production, noting that although fossil fuels will be consumed, a net decarbonisation gain can still be

achieved due to the fuel-switching potential of hydrogen. It was also noted that CCS is an energy intensive process that will, in some instances, involve continued fossil fuel use to power the process. Therefore, as part of the transition both for industrial processes and for secure energy supply and grid balancing, some continued fossil fuel use will be required. A lifecycle approach to emissions would identify whether the use of fossil fuels resulted in a net decarbonisation gain.

Several responses raised how providing evidence of not prolonging the use of fossil fuels would be technically challenging for CCS developers. The complexity of CCS technology and the facilities, its services, and the relationships between CO_2 producers, transport and storage providers, energy users, and industrial markets, and how these facilities interact and change over time, would make determining how a specific CCS development impacts on wider fossil fuels utilisation extremely complex to calculate. Responses noted that the burden of undertaking this calculation should not rest solely with CCS industry.

Responses noted the policy objective of deploying CCS only where there are no reasonable alternatives to reduce emissions, created an administrative burden to provide evidence of there being no viable alternative.

The policy requirement to deploy CCS only where there are no reasonable alternatives to reduce emissions raised concerns that a developer would be required to assess life-cycle emissions for multiple alternatives, thereby creating excessive administrative burden compared to England and Scotland.

Responses raised wider concerns regarding the potential to introduce additional administrative burdens on developers.

Several responses raised the potential for the policy to place unnecessary compliance and administrative burdens on developers, leading to investment barriers, additional costs, delays, and discouraging investment in Wales.

Respondents had the perception that the policy could lead to a duplication of the evidence burden, with there already being stringent regulatory controls in place requiring developers to demonstrate decarbonisation and net climate benefits via the planning regime and compliance with Best Available Technology (BAT) via the environmental permitting regime

Multiple respondents commented that the consultation did not adequately identify what evidence would be required to demonstrate fossil fuel use was not unnecessarily extended, which regulators would consider the evidence, and against which regulations would the evidence be assessed. The lack of clarity left room for interpretation, which could lead to inconsistent approaches and decisions, and uncertainty which could hinder investment.

Storing emissions would allow for continued use of fossil fuels, cause a delay in achieving net-zero targets, and could detract investment from renewable energy.

Similar to question one, responses suggested that the geological storage of carbon dioxide could encourage the continued consumption of fossil fuels, even where fuel switching or energy efficiency remained a potential decarbonisation option.

Welsh Government Response to Question 2

The proposed policy does not introduce new evidence requirements, but rather, it is intended to add additional context to those evidence requirements already present in existing consenting regimes (planning, environmental permitting and licensing). We do agree that the evidence requirements need to be more clearly defined in the policy and better linked to existing consenting requirements. Further guidance will be published to assist developers.

The proposed policy should also be recognised as a strategic policy, outlining the broad support for CCS where it delivers clear decarbonisation and economic benefits. The policy does not provide detailed consenting requirements or a strategy for delivery.

Welsh Government considers that, in most cases, alternatives to CCS will be considered as part of final investment decisions and as part of established consenting processes. Projects involving carbon capture, transport, and storage will require planning permission and may also be subject to an Environmental Impact Assessment (EIA), depending on their scale and potential environmental effects. The Planning (Wales) Act 2015 does not explicitly require developers to consider multiple alternatives in every case. However, it introduces several provisions that indirectly encourage or necessitate the consideration of alternatives, especially in the context of sustainable development and major projects.

Section 2 of the Planning (Wales) Act 2015, which aligns with the sustainable development duty in section 2 of the Well-being of Future Generations (Wales) Act 2015, requires public bodies to exercise their functions relating to planning applications as part of carrying out sustainable development, so that the development and use of land contribute to improving the well-being of Wales. In practice, this often requires developers to consider alternative sites, designs, or approaches that better support environmental, social, and economic well-being. Section 17 of the Planning (Wales) Act 2015 requires developers of major projects to carry out pre-application consultation with communities and statutory consultees. While the Act doesn't mandate presenting alternatives, the consultation process often leads to requests for justification of the chosen approach, which can involve discussing alternatives.

Projects that fall under EIA regulations must include: "An outline of the main alternatives studied by the developer and an indication of the main reasons for the developer's choice, taking into account the environmental effects." This is a statutory requirement under the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017.

Similarly, under the Nationally Significant Infrastructure Projects (NSIP) regime in the UK, developers are not explicitly required to consider alternative proposals. However, if a project requires an Environmental Impact Assessment (EIA) (which most NSIPs do), the developer must include in the Environmental Statement a description of the reasonable alternatives studied, and the main reasons for the selected option, taking into account environmental effects.

Before submitting a Development Consent Order (DCO) application, developers must conduct extensive consultation with local communities, statutory consultees, and other stakeholders. This process may raise alternative suggestions or concerns that the developer is expected to consider and respond to.

These provisions do not mean every possible alternative must be considered, but reasonable and realistic alternatives, especially those with potentially less environmental impact, should be addressed. Welsh Government therefore anticipates that most CCS developers would consider alternative options as part of their obligations under the applicable planning regime. The proposed Welsh Government policy will not require extensive consideration of alternative options where this is not required in existing consenting regimes.

Question 3

Do you agree that storage within the UK continental Shelf (UKCS) should remain the preferred focus rather than onshore locations in Wales? Our current preference is that captured emissions should be stored at UK-controlled offshore locations). If no, please provide reasons

There were 32 responses for Question three. Twenty-three responses clearly indicated agreement with the policy objective of focusing CCS activities on the UKCS. Six responses clearly disagreed. One response partially agreed, and two partially disagreed.

The key themes that emerged from the responses to question two were:

Acknowledgment of the advantages to Wales (and the UK) in access to the UK Continental Shelf (UKCS).

The consultation responses generally supported the proposed policy position that any industrial CO_2 emissions captured in Wales should go to suitable offshore storage locations on the UKCS, where historic experience of petroleum extraction provides for an improved understanding of the geology. Conversely, onshore storage was generally viewed as unnecessary considering the UKCS's storage capacity. There was also a perceived higher risk for fugitive emission leakage due to a lack of knowledge and experience of onshore geological storage, and the unsuitability of Wales's geology as a storage medium.

The development of a negative public perception and a misunderstanding of the risks associated with CCS, particularly regarding the potential for leakage and safety, were raised as key barriers to CCS deployment. The risk being exacerbated by onshore storage, given the closer proximity to residential areas, and the lack of established facilities from which to derive data that might provide reassurance.

Many responses highlighted that the regulatory framework applicable to CCS is established, robust, and that the sector can draw on directly comparable experience from various gas transport and storage industries and the petroleum extraction sector. Responses also highlighted that safety issues are understood, and that mitigation and monitoring is inherent within the regulatory framework. Responses noted that the depth of experience was largely derived from offshore petroleum

extraction, and therefore, the deployment of CCS on the UKCS was considered a lower safety risk when compared to onshore.

Many responses highlighted that the UK Government policy, regulations and support mechanisms are largely focused on offshore CCS. Given the potential storage capacity of the UKCS, it was further noted the UK could form partnerships with European countries fostering economic growth and enabling wider decarbonisation, with some responses encouraging cross-border trade of CO_2 and storage. The potential of the UKCS was viewed by some as a real opportunity for the UK to be at the forefront of carbon storage globally. The immediacy of access to the UKCS, due to infrastructure and experience derived from offshore petroleum extraction, compared to the largely untested onshore storage, was highlighted as a key economic and practical benefit with opportunity to transfer skills and knowledge from the oil and gas industry.

Some responses agreed in principle with the preference of UKCS storage but questioned the costs of the necessary infrastructure, and how these costs might impact consumers. Some responses also questioned whether the full life-cycle emissions of CCS had been adequately analysed.

Some respondents suggested the proposed policy should not restrict storage to the UKCS, allowing for onshore storage as the regulatory controls are appropriately robust and onshore storage could create additional economic opportunities. There were additional comments suggesting potentially viable onshore solutions such as biochar sequestration which could offer environmental benefits such as improved soil health. The option of repurposing decommissioned mines was also suggested, on the basis they could be easier to monitor and reduce transport overheads. The responses suggested onshore be considered alongside offshore options, offering a mixed approach to decarbonisation.

The need for Non-Pipeline Transport (NPT) solutions to be developed within Wales.

Many responses highlighted how non-pipelines transport (NPT) via shipping of CO_2 from South Wales to geological storage on the UK Continental Shelf is essential to decarbonising industry and energy production in South Wales. It was noted a

significant number of emitters will require NPT to access storage facilities, and called for the Welsh Government to work with UK Government to develop an NPT supportive policy and regulatory framework.

Responses also raised the economic case for CO_2 transportation to storage via shipping, particularly given the proximity of the South Wales Industrial Cluster and key emitters to port facilities. These responses highlighted the significant economic opportunity for Wales and the UK that could be derived from investing in CCS, infrastructure, operation and maintenance, including transportation of CO_2. These responses tended to request that Welsh Government fully develop the opportunities for cross -border and international trade of CO_2 and storage, citing the additional opportunity for such trade to reduce costs for UK emitters.

Welsh Government Response to Question 3

Ensuring the safe deployment of CCS is critical to achieving our net zero emission goals and developing public acceptance of the technology. Welsh Government consider the UKCS, and the vast knowledge and experience derived from petroleum extraction, offer the greatest opportunity to deliver CCS safely and effectively.

Welsh Government recognises that for South Wales, NPT is essential for sustainable decarbonisation and achieving net-zero targets. Emitters in South Wales can only access suitable storage locations within the UKCS via NPT. Regulation of NPT is largely a reserved matter for UK Government. As advised by the Climate Change Committee in its Fourth Carbon Budget for Wales, Welsh Government will work with the UK Government to develop CO_2 transport and storage policy, support and regulatory frameworks necessary to deploy CCS-based removals at scale

Question 4

Do you agree overall with the proposed policy position set out in this document? if not please indicate where you disagree and your reasons for disagreeing?

There were 33 responses to question four. Thirteen responses disagreed with the propose strategic policy, and twelve agreed. Eight responses did not provide a clear yes or no response, but all eight provided statements that suggested broad support

for the policy. The open-ended nature of the question resulted in significant duplication of the points raised in questions 1-3, in particular:

- Broad support for avoiding emissions being preferable to geological storage.
- Further clarity on the practical application of the policy and evidence requirement that is needed for industry, decision makers and Government.

Responses confirmed support for the overall policy preference to avoid emissions over capture and storage, for both energy and non-energy activities. The policy position of ensuring CCS does not become a vehicle for extending fossil fuels unnecessarily was also largely welcomed. However, there was clear acceptance that CCS is essential in circumstances where the avoidance of emissions was not technically or economically feasible. Responses requested further clarification of the circumstances or sectors where CCS was the most effective decarbonisation option.

A relatively large number of the responses perceived the consultation as being somewhat negative towards CCS, and stated the Welsh Government should do more to promote and encourage its deployment. These responses suggested the policy could discourage CCS, raising the risk of either delaying achieving net-zero, or de-industrialisation. These responses went further, requesting the transformative potential of CCS be embraced by Welsh Government, through better recognising its ability to foster new economic, societal and environmental opportunities. It was also noted that failure to deploy CCS could lead to emission offshoring, job losses, and reduced economic activity in Wales. Responses suggested the policy should inspire and give confidence to developers and stakeholders to invest in CCS projects.

It was suggested the proposed policy could be viewed as counter to the UK Government National Policy Statement (EN-1) that applies to Nationally Significant Infrastructure Projects within Wales, and identifies CCS as a national priority. The consultation responses perceived the proposed Welsh policy a placing a low priority on CCS. The perceived low priority for CCS was also seen as contradicting the Clean Power 2030 Action Plan, the CCC's Sixth Carbon Budget, and the Welsh Government's own well-being goals and Carbon Budget 2 proposals.

Some responses raised the potential for better alignment of wider of Welsh Government policies to create an unambiguous position of support and thereby increase investor certainties and stimulate low-carbon investment.

Responses also requested additional clarification on what infrastructure developments the Welsh Government want to see in Wales, and what transportation methods were expected to be developed. Some responses went further suggesting the Welsh Government has a responsibility to support industry in developing and progressing its CCS decarbonisation plans. This also led to criticism of the policy lacking a strategy for funding, certification, delivering circular economy objectives, and coordinating private and public collaboration.

Responses suggested the proposed requirement on developers to evidence the net decarbonisation benefit of their specific projects was only workable if additional guidance and clarity on evidence requirements was provided by Welsh Government. Some responses continued to strongly disagree to the duty being placed onto developers to evidence CCS would not unnecessarily increase or extending fossil fuels as inferring distrust within industry.

Responses that were critical of CCS technology equated the technology to landfilling, and argued that it was not a practical solution to decarbonisation. Concerns were raised, within responses both supportive and non-supportive of CCS, that CCS could enable continued fossil fuel use and delay the transition to lower carbon fuels if not effectively managed.

The potential for duplication of regulatory burden was reiterated against question four. The proposed policy position, it was stated, would increase regulatory uncertainty and the regulatory burden on CCS developers, adding additional planning risks and harming the competitiveness of Wales. These responses also stressed a need for further policy clarity, and for continued collaboration with UK government, to ensure clear guidance and simplified consenting deliver net-decarbonisation benefits and an economically viable sector.

A separate consultation focused on the utilisation of CO_2 was recommended. Some responses noted the potential for the chemical conversion of CO_2 into chemical building blocks, including converting into commodity feedstock chemicals and ethylene's. Responses also suggested CCS be considered a temporary storage method, with the CO_2 available for future utilisation.

Welsh Government Response to Question 4

Responses to question four added further information to previous comments and some useful constructive suggestions. The Welsh Government response is covered in questions 1-3.

Question 5

What type of additional information or guidance would help give effect to this policy?

There were 30 responses to question five. Whereas responses reiterated points made in earlier questions, and these have already been addressed, a substantial number of responses raised a specific issue regarding the need for clarity and additional information, in particular:

A key theme in responses to question five was the need to ensure that no additional administrative burden is placed on developers in Wales compared to other markets. This is to ensure Wales is attractive to project developers and investors. The regulatory landscape for CCS was perceived as complex, spanning multiple regulators and processes. These responses called for simplification and further clarification on how existing requirements will sit alongside this policy.

It was noted by some that current UK policy positions are disincentivising investment, suggesting clearer guidance alongside policy could mitigate this risk, particularly additional guidance on how the policy would apply a technology neutral position. Some responses called for clearer planning guidance and clear certification pathways.

Some responses called for clarity concerning Wales specific regulatory bodies such as Natural Resources Wales (NRW), comparative to other UK regulators, to ensure full transparency through the permitting and planning phases of CCS projects. Some responses questioned to what extent planning, permitting, and regulatory authorities would prioritise CCS applications against other developments in terms of resource allocation.

Some requested clearer definitions of some of the subjective terminology used in the policy, such as “reasonable” and “unnecessary” as essential to clarify the expectations on developers and avoid public law concerns. These responses also requested guidance or criteria to help define what would be an acceptable or unacceptable project, which could aid developers in securing finance.

Some noted that whilst high-level guidance on how a developer can demonstrate its need for CCS will be necessary, they also stressed that there should be scope for the developer to make a reasonably concise case for that need. It was also noted however within the responses that even with clear guidance, the policy in its current form will increase burdens and create investment barriers for developers.

Responses suggested that the policy better differentiates between those industries that generate emissions through combusting fossil fuels for energy, and those that generate emissions as an unavoidable by-product of non-energy industrial processes.

Responses advised better coordination between the Welsh Government, UK Government and regulatory bodies to ensure duplication of administrative burden is better identified.

Some respondents welcomed the potential for feedback on how industry and industry representation can better inform the Welsh Government on the importance of CCS, potential benefit and to further emphasise its necessity. Specific details were also called for on how the Welsh Ministers would support CCS projects as this could be of significant value to the industry and stakeholders.

Welsh Government response Question 5

The additional guidance will take into account the request for clarification on evidence required. The production of a regulatory route map will demonstrate where this policy fits with other permissions and identify the responsible body.

Question 6

We would like to know your views on the effects that 'Carbon Capture, Utilisation and Storage' would have on the Welsh language, specifically on opportunities for people to use Welsh and on treating the Welsh language no less favourably than English. What effects do you think there would be? How could positive effects be increased, or negative effects be mitigated

There were 21 respondents in total commenting on question six. Responses generally recognised the importance of the Welsh language and the potential positive impact of the CCS policy on the language, many included measures they were taking today to engage bilingually. Some of the key elements within the responses were:

- A need to adopt new technical terms within the welsh language.
- Recognition of the necessity for policy documentation to be in both Welsh and English.
- Potential opportunities for the inclusion of the Welsh language in job growth and job retention in Welsh communities.
- Recognition of the net-zero transition being as much a cultural change as it is a technological and economy change.
- Push for using existing tools such as the Net Zero Industry Wales Welsh language glossary.
- Learn from other energy developments which exposed negative impact on the Welsh language.

Responses were predominantly supportive of CCS deployment strengthening the Welsh language and made positive connections with the emerging CCS sector.

The potential for employment growth across low, medium and high-density Welsh-speaking communities was seen as an enabler towards further bilingual opportunities within Wales.

Developing industry and technical terminologies, active engagement and active compliance to the Welsh Language (Wales) Measure 2011 and the Welsh Language and Education (Wales) Act 2025 was also seen as a positive approach to the Welsh

Government's 'Cymraeg 2050', for Wales to retain & strengthen the Welsh language, and to support communities both socially and economically.

The risk of depopulation from Welsh-speaking areas was also noted as being mitigated with high quality jobs and long-term careers being available within those regions, suggesting the CCS sector could support that need.

The potential for displacement of Welsh communities was also noted, citing the potential for workers originating outside of Welsh-speaking areas increasing demand for housing and other local resources, suggesting this would need consideration in the development of the CCS sector. In this context it was further noted the CCS industry is keen to facilitate the transition from other energy and industrial sectors, reducing the need for an entirely new workforce, to secure employment for Wales based people. Engagement with local groups such as the Mentrau Iaith to support the use of the Welsh language was also viewed as a positive mitigation of that risk.

There were some less-positive responses which didn't see any value in the question, some suggesting unnecessary costs associated with bilingual requirements, however these were in the minority and not elaborated on beyond minimal input.

Welsh Government response question 6

It was very positive to see the actions already in place to support Welsh language in the communities. It is important that we see the growth of the language across Wales. Although securing investment and long-term growth should result in growth of the language it is important that this is not assumed, and developers seek out ways to grow the language in the community where they are based. PPW already requires new developments to consider the impact on Welsh language as part of its commitment to assess against the Well-being goals of Future Generations and sustainable development principles, this includes cultural considerations on how a proposal supports the use of the Welsh language.

Question 7

Please also explain how you believe the proposed policy could be formulated or changed so as to have positive effects or increased

positive effects on opportunities for people to use the Welsh language and on treating the Welsh language no less favourably than the English language, and no adverse effects on opportunities for people to use the Welsh language and on treating the Welsh language no less favourably than the English language.

The majority of responses were positive and some suggested mandating that communication should be bilingual, and that more provisions for Welsh language employment and training would enable the development of CCS in Wales. Many felt that if CCS was promoted to encourage local solutions and local growth this would lead to an increase in jobs in the local economy, supporting communities.

However it was reiterated that the Welsh Government's policy position should align with the approach of the UK Government and the CCC and aim to prevent additional administrative burden being placed on project developers. This would ensure a level playing field, increasing investor certainty and stimulating low carbon investment in Wales. Some concerns were raised on the challenges of developing technical Welsh language equivalents for engineering and scientific terms, however it was also highlighted that Net Zero Industry Wales have produced a glossary of terms in welsh Glossary – Net Zero Industry Wales

Welsh Government Response to Question 7

It is important that all developments have a positive effect on the Welsh language across Wales. The Planning (Wales) Act 2015 requires that all developments must carry out sustainable appraisal in accordance with the Well-being of Future Generation (Wales) Act 2015. Planning Policy Wales (PPW) requires everyone to embrace the concept of placemaking, a more holistic approach considering the social, economic, environmental and culture value of a development.

Question 8

We have asked a number of specific questions. If you have any related issues which we have not specifically addressed, please use this space to report them:

There were 17 respondents in total commenting on question eight. All issues relevant to CCS were considered as part of our analysis and drafting of the policy.

As this was a very open question the comments were wide ranging. Some used it as an opportunity to reiterate points already made, in particular the benefits of CCS and economic opportunities.

Key issues are summarised below:

- A need for collaboration between the Welsh Government and the UK Government to ensure alignment of viewpoints and common objectives, enabling smoother cross-border CCS project deployment.
- A call to streamline licensing and consenting processes, and encourage more collaboration between regulators.
- Large scale utilisation of CO_2 was suggested as offering significant potential to change the chemical sector, and the wider economy, noting it would not only change the way fossil resources, feedstocks and renewable energy sources are used, but could also lead to new markets, value chains and products.
- Some responses questioned whether a hierarchy of carbon reduction will be issued and implemented, suggesting CCUS should be considered the last option within that decision making process.
- Responses positively supported CCS as not just a decarbonisation tool, but also as an economic enabler along with other benefits to Wales. Some responses went further, suggesting that CCS will attract private investment leading to significant return on investments, innovative technologies and products, and grow supply chains. The aspect of skills growth and retention of skills through transition and reskilling was also noted.
- The public perception of CCS was also addressed across responses, suggesting wider public support is critical for successful delivery of CCS projects, advocating for further public awareness and information campaigns. Responses also expressed a view that Welsh Government needs to collaborate more with other devolved administrations and the UK Government to ensure consistency within the UK. Responses asked for further consideration of changes to legislation and policy to facilitate more rapid deployment and consenting of CCS infrastructure, in particular pipeline and capture facilities. Further engagement with the Welsh Government was welcomed across respondents in the development of policy and infrastructure within Wales.