

## Climate Change Plan call for views: summary of responses for the Negative Emissions Technologies sector

The Net Zero, Energy and Transport Committee ran a proactive [Call for Views on the forthcoming Draft Climate Change Plan \(CCP\)](#) from 27 June to 19 September 2025. This SPICe briefing highlights key Negative Emissions Technologies (NETs) sector issues raised by respondents. It is not intended to be a comprehensive summary, but a brief overview of key issues raised. Full responses are published on the Scottish Parliament website: [Published responses for Draft Climate Change Plan Scrutiny 2025 - Scottish Parliament - Citizen Space](#).

A table of acronyms used to refer to the organisations that submitted responses is included at the end of the document.<sup>1</sup>

### What are the most important policies needed to achieve the proposed carbon budgets?

There were several responses that expressed negative views about the prospects of carbon capture and storage, a fundamental part of NETs technology. The views expressed included that Carbon Capture and Storage (CCS) is an unproven technology (SCCS), and that there was uncertainty about “its long-term scalability and environmental impacts” (C2050). The FOES response suggests that the CCP should “inject a dose of realism into a Negative Emission Technology”. They go on to make specific reference to the Peterhead CCS gas power plant proposal (not specifically a NETs project). Other views included that NETs should only be brought forward if funded privately or via a Polluter Pays Principle (EDC).

Some emphasised the need for transparency with the monitoring of the technology in order to determine the efficiency and the level of carbon captured (QS, individual). Others suggested that nature-based solutions were a preferable alternative to NETs (EDC, QS, SC, RCPE, individuals). Some highlighted the sustainability issues around the use of biomass in Bio-energy carbon capture and storage (BECCS, a form of NET) (RCPE, UKERC). NatureScot highlighted the role of bioenergy crops, noting that “as a ‘new’ crop component of a farm/forest system, biomass for bioenergy could be advanced at the outset in a way that advances Scottish Government’s ambition to be a world leader in regenerative agriculture”, but that the organisation “consider[s] that certainty over the delivery of CCS [carbon capture and storage] infrastructure should condition policy support for energy crops”.

Other responses stated that priority should be given to other areas – such as buildings and transport – where decarbonisation options were more certain (EDC, QS, FOES, individual). HC described NETs as a back-up option, not a substitute for

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<sup>1</sup> Note: The table includes all organisations that submitted a response to the Call for Views. However, not all organisations responded to every section, and not all acronyms appear in each briefing.

emission reductions. Some highlighted the need for more research into NETs (ACC, C2050).

Those responses that were less sceptical of NETs included that from UKERC, which highlighted the opportunity of converting existing bioenergy plants to be BECCS facilities, although they stated that this will need coordination and state support. They highlighted Climate Change Committee (CCC) evidence on the importance of NETs for net zero, and that there was a need for a coordinated strategy, due to the need for infrastructure and offshore geological storage. They raised the need for community support near to where CO<sub>2</sub> would be stored and that there is potential for basalt extraction in Scotland to be used for enhanced rock weathering sequestration.

NECCUS argued that CCS and NETs were key technologies, and that there should be planning and permitting allowing for rapid development; that local government need frameworks for support (policy and resource); that skills and training will be necessary, with support from further education colleges; and that “supporting biogenic CO<sub>2</sub> management (capture) and aggregation will enable the move away from fossil fuel use for production of chemicals, e-fuels and aviation fuel”.

A degree of support for NETs came from GCC and HC. HC argued that the “Highlands are well-placed for NETs hubs due to ports, renewable generation, and storage opportunities”. The perspective raised by GCC was that the role of urban local authorities can be overlooked with respect to NETs and that “agreements between rural authorities and urban authorities are essential to balance emissions and reach Net Zero”. They also highlighted research from Carbon Neutral Cities Alliance on the options for carbon removal technologies in urban environments that they are taking part in.

## **When should these policies be introduced, and over what timeframe should they be implemented?**

Some highlighted the CCC advice that sees CCS beginning to make a contribution in Scotland from 2030 and becoming significant from 2036 (EDC, QS, ACC).

Some individuals and QS argue that the urgency to act on climate change means that there is not time to support technologies like NETs and that nature-based solutions should be prioritised instead. Although they voiced skepticism to NETs, RCPE suggested policy should be introduced “immediately, to ensure that their use is safe, ethical, transparent, and aligned with health and environmental protections from the outset”.

NECCUS argue that policies supporting CCS and NETs should be prioritised as a means of the prospective industry capturing a first-mover advantage. UKERC and HC set out their own detailed policy timelines between now and the 2040s. GCC state that support should come as soon as possible and that policies should consider the structure of local authorities and how they will be affected.

Others follow on from their previous stated support for prioritising nature-base solutions and suggest that support for these should be increased immediately (SC, individuals).

## What are the expected costs of implementing these policies?

QS and some individuals stated that NETs are one of the most expensive climate solutions, and that nature-based solutions are much less expensive. They think that cost benefit assessments of NETs should be rigorous and they stress the importance of transparency and monitoring of performance. This point was also made by GCC. EDC also assert that NETs costs are likely high relative to nature-based alternatives, and that they should be funded via a “Polluter Pays Principle”.

HC suggest a “National Cost Model” and the use of private finance and contracts for difference type schemes and carbon removals credits. They assert that “Highland hubs can deliver system-wide savings by reducing renewable curtailment and providing flexible demand.” GCC suggest there are benefits from CCS and that it should be funded via existing funding streams. They highlight that they have produced cost estimates in their [Net Zero Routemap](#).

RCPE state that costs vary but highlight evidence from the [International Energy Agency](#) and the [European Roundtable on Climate Change and Sustainable Transition](#). They highlight that the cost of inaction on climate change is large and state that “the key to keeping costs low, both financial and health-related, is to deploy NETs only where essential, prioritise nature-based removals”.

UKERC state that “DACCS facility costs are estimated to be high, whilst BECCS has lower costs through leveraging existing infrastructure. Indirect costs are expected through labour displacement, training, sequencing, and in developing CO<sub>2</sub> shipping and import/export capabilities”.

FOES highlight that levies to fund CCS ultimately come from the general public and that there is “no evidence of technological learnings or cost reductions in any part of the CCS process across capture, transport and storage in the last forty years.” Ultimately, they say funds should be re-directed to those in poverty.

## What are the expected benefits of these policies?

NECCUS state that the technology could boost the Scottish economy by reducing the costs of net zero and by boosting GVA (gross value added). They highlight that Scottish waters host three quarters of UK storage capacity. Similar points to these are made by UKERC; that NETS could have financial benefits, support jobs and GDP growth. They assert that Scotland could become “a European hub for CO<sub>2</sub> import, storage, and associated technology and service exports”.

HC highlight the benefits as being durable carbon removal, flexibility for the electricity system, potential jobs, possible heat for district heat systems and industrial growth in the Highlands. GCC argue that a consistent approach is needed to reporting of co-benefits and there is [research from the Carbon Neutral Cities Alliance](#) which maps out options for carbon removal in urban areas.

As with previous answers some individuals and QS highlight the benefits of nature-based solutions instead of NETS. These benefits include biodiversity improvements, water quality and flood protection. They also highlight that direct emission reductions as opposed to carbon sequestration, are more beneficial to public health. RCPE state that there could be carbon savings benefit if deployed carefully but that nature-based solutions have wider benefits. EDC see NETs as a distraction from proven solutions and thus they may have a net negative impact.

## **What do you think the key challenges would be in delivering these policies?**

SCCS argue that NETs will be promoted as a reason to not decarbonise as quickly and that all supporting claims must be robustly scrutinised. QS and some individuals suggest the greatest challenge lies in “overcoming technological optimism and vested interests”. High costs are raised by various respondents (QS, ACC, HC individuals).

According to NECCUS, the key challenge is availability of funding for both capex and opex, and without this there is a high risk of the industry relocating. High electricity prices are also cited as a challenge as is the need for the right numbers of skilled people, that “are currently at school or in further education now, these industrial decarbonisation opportunities need to be in the school curriculum.”

UKERC state the challenges are public attitudes and obtaining a social license from communities asked to host NETS. They state that research from [O’Sullivan \*et al\*](#) and [Cox \*et al\*](#) show that “the UK public will place strong conditions upon any large-scale deployment of any NETs technologies”.

EDC highlight that there are doubts about the scalability of NETS in general and that BECCS is water and land intensive. HC highlight sustainability questions around forms of biomass. They go on to raise various other challenges, including skills shortages, public mistrust and cost competitiveness. They state that “community equity and transparency are essential to secure trust”. RCPE argue there are “serious ethical, health, governance and equity challenges”, risks to health and wellbeing (could worsen air pollution), and distractions from more “health positive” options.

ACC highlight that it is difficult to measure carbon removal, that there has been slow development so far, and that there will be long-term maintenance challenges for the technology and the stores. QS also raise the challenges of long-term maintenance.

## **How could these policies support a Just Transition for workers and communities?**

QS and two individuals had the same view, all stating that “we should not subsidise [sic] industries that have contributed disproportionately to the climate crisis whilst burdening future generations with monitoring and maintenance costs.” SCCS state that a genuine just transition would involve few or no NETs. EDC set out that NETs should not squeeze out other options which have greater societal benefits e.g.

nature-based solutions. SC meanwhile consider that nature-based solutions would offer more jobs in the land and environment sector (than NETs). RCPE also believe that nature-based solutions should be prioritised and state that there should be no NETs imposed on communities with air pollution problems.

NECCUS believe that a competitive low carbon sector, including NETs, would protect jobs within many existing sectors of the Scottish economy, but that skills training is necessary. Similarly, UKERC assert that “CO2 transport and storage present a particularly strong just transition pathway” that can “mitigate risks to the existing workforce by utilising offshore capacity and supply chain expertise”. FOES state that the jobs claims from NETs should be interrogated, as there are no at scale precedents and so no real-world evidence.

GCC believe that the co-benefits of NETs need to be researched in greater detail. HC assert that there would be jobs and skills benefits and that BECCS projects could provide waste heat to district heating networks.

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## Table of acronyms used to refer to organisations

<b>Acronym</b>	<b>Full form of respondent</b>
C2050	2050 Climate Group
ABCA	Anderson Bell & Christie Architects
ACC	Aberdeen City Council
AGS	Auditor General for Scotland
ALLIANCE	Health and Social Care Alliance Scotland
BE-ST	Built Environment Smarter Transformation
BEFS	Built Environment Forum Scotland
BHHPA	British Holiday & Home Parks Association
CCAN	Cardross Climate Action Network
No acronym used	Climate Cafe Shetland
CEP	Centre for Energy Policy, University of Strathclyde
CERG	Climate Emergency Response Group
CIAT	Chartered Institute of Architectural Technologists
CITB	Construction Industry Training Board
No acronym used	Colleges Scotland
CreScot	Creative Scotland
CS	Consumer Scotland
No acronym used	Culture for Climate Scotland
CXC	ClimateXChange
No acronym used	Cycling UK
No acronym used	Edinburgh Communities Climate Action Network
EDC	East Dunbartonshire Council
EHA	Existing Homes Alliance
EMEC	European Marine Energy Centre
EST	Energy Saving Trust
FDFS	Food and Drink Federation Scotland
FES	Future Economy Scotland
FOES	Friends of the Earth Scotland
GCC	Glasgow City Council
GGM	Get Glasgow Moving
HC	Highland Council
HES	Historic Environment Scotland
HfS	Homes for Scotland
IKEA	IKEA Ltd
IPPR Scotland	Institute for Public Policy Research Scotland
No acronym used	Liquid Gas UK

No acronym used	Logistics UK
RESPECT project	LUNZ Hub RESPECT Project
MCS	The MCS Foundation
NECCUS	North East Carbon Capture Utilisation and Storage
NESTRANS	Nestrans (Regional Transport Partnership for Aberdeen City & Aberdeenshire)
NHS Lothian	National Health Scotland Lothian
NFUS	National Farmers Union Scotland
NS	NatureScot
No acronym used	Nourish Scotland
No acronym used	Orkney Islands Council
No acronym used	Paths for All
No acronym used	Peat-free Partnership Scotland Advocacy Group
PHS	Public Health Scotland
No acronym used	Perth and Kinross Council
No acronym used	Propertymark
PS	Police Scotland
QS	Quakers in Scotland
QMS	Quality Meat Scotland
RCPE	Royal College of Physicians Edinburgh: Air Pollution Working Group and Climate Café
RICS	Royal Institution of Chartered Surveyors
RMT	National Union of Rail, Maritime and Transport Workers
RSPB Scotland	Royal Society for the Protection of Birds Scotland
SAP	Scottish Agroecology Partnership
SC	Scottish Care
SCCS	Stop Climate Chaos Scotland
SE	Scotland Excel
SCIS	Scottish Climate Intelligence Service
SEDA	Scottish Ecological Design Association
SEPA	Scottish Environment Protection Agency
SEStran	South East Scotland Transport Partnership
SF	Stockfree Farming
SLC	South Lanarkshire Council
SPT	Strathclyde Partnership for Transport
SRAEHL	Scottish Research Alliance for Energy, Homes and Livelihoods
No acronym used	Seafood Scotland
SSN	Sustainable Scotland Network

StC	Stirling Council
SuSc	Sustrans Scotland
SWA	Scottish Wholesale Association
TACTRAN	Tayside and Central Scotland Transport Partnership
No acronym used	Transform Scotland
UKERC	UK Energy Research Centre
UoGSoL	University of Glasgow, School of Law
UWE Bristol	University of the West of England Bristol
WWF Scotland	World Wide Fund for Nature Scotland