Scotland's Draft Climate Change Plan: 2026-2040

Follow-up note on oral evidence to Scottish Parliament's Net Zero, Energy and Transport Committee, Tuesday 16 December 2025

Dr Mark Winskel, Senior Lecturer, University of Edinburgh and Deputy Director of the UK Energy Research Centre (UKERC) [redacted] ***February 2026***

UKERC is a UK-wide academic research centre, headquartered at Imperial College London, including research teams at the University of Edinburgh and Strathclyde. UKERC has a longstanding interest in supporting the development of climate policy and energy policy in Scotland. It is an independent body publicly funded by UK Research and Innovation (UKRI).

Although I mention some examples of relevant UKERC research below, the views here are my individual ones, and don't represent a UKERC position on the draft Plan. UKERC has submitted a written response to the Government's consultation, and a written response to the Parliament's earlier call on CC Plan scrutiny in November 2025. I have limited my individual comments to areas closest to my own areas of expertise: the energy sector, and methodological approaches for energy scenarios and transition plans.

General comments on the draft CC Plan

Assembling an economy-wide long term plan is a formidable challenge, and all such plans have their strengths and weaknesses. The publication of Scotland's Draft Climate Change Plan: 2026-2040 is welcome, as is the Government's commitment to meeting the Climate Change Committee's recommended Carbon Budgets.

There has been a long gap since the last CC Plan – the CC Plan Update (CCPu) in 2020 – and circumstances have changed a great deal. The last plan was assembled at a high point for international climate policy efforts, with a broad consensus of net zero policy consensus in Westminster and Holyrood. Energy prices were stable, international energy security was a marginal concern, and climate change was a high priority concern for many citizens.

This has all changed in the years since – the current draft plan has been developed in the face of much stronger economic, political and societal headwinds than its predecessors. Long term climate and energy policy faces many risks and uncertainties, internationally, in the UK and in Scotland, and there are interdependencies across these scales, so the Scottish Government is faced with a difficult challenge.

Scotland's status as a climate policy leader has also been eroded since the last Plan. The Climate Chane Committee, Audit Scotland and other bodies have been highly critical of policy failures in this area, with policy targets having been set without convincing means of delivery, and in some cases abandoned, and with long delays in some areas: the *Energy Strategy and Just Transition Plan* has not been published in final form, long after the draft was published, and there are further delays to the *Heat in Buildings* Bill.

The draft CC Plan is presented in a very different way than its predecessors: a short first document and three longer annexes (sectoral, monitoring and analytical). It is difficult to follow the trail from evidence and analysis to policy between the different documents.

There is little evidence presented in the short summary document. The annexes list current policies in some detail, but the background analysis and evidence informing policy choices isn't made available. This evidence presumably exists within government, because policy costs are presented in aggregate form, but the more granular analysis and figures aren't provided. These omissions makes it difficult to engage with the document and answer some key questions; for example:

- what technology cost and performance data and assumptions have been used?
- what are the projected levels of demand and demand reduction in different sectors?
- how have inter-sectoral relationships and trade-offs been analysed?
- how has uncertainty and contingency analysis been carried out?

Another major difference from the previous plan is the analytical methodology. The last CCP and CCPu were dominated, analytically, by whole systems modelling, specifically the Scottish Times systems model. I could find no mention of the Scottish Times model anywhere in the draft Plan documents.

This methodological shift can be defended – the UK Climate Change Committee (CCC) has also moved away from heavy reliance on systems modelling to develop its decarbonisation pathways, in favour of 'bottom-up' sector level analysis – but while the CCC explains its working methods in detail, there is very little analytical detail in the draft CC Plan.

Another immediate impression is that the aims and scope of the Plan have been redrawn. Just Transition issues are now central to the draft content and consultation questions. This an understandable reframing, given prevailing policy concerns, but just transition issues are more difficult to resolve through an agreed evidence base, and ultimately require accountable policy decisions. For example, there may be a policy tension between growing domestic supply chain growth and procuring low carbon technology internationally at least cost through competitive tendering. While the trade-offs here should be made explicit and evidence-informed, wherever possible, striking the right balance is ultimately a matter of accountable policy judgement.

Finally, while there is now greater realism in the deliverable pace of change in some areas compared to the CCPu (especially in the heating and buildings sector), the overall pace of change and sectoral ambitions remain very challenging. This is especially so for transport – a sector where Scottish and UK Governments have a poor track record. This means the future is expected to be very different than the past – and to be convincing, the draft should draw strong links between evidence and policy. The omission of detailed analytical content is problematic here.

The Climate Change Committee's carbon budget advice (May 2025)

Given the omission of detailed analysis in the draft Plan, the CCC's advice and analysis on carbon budgets from May 2025 ('Scotland's Carbon Budgets: Advice for the Scottish Government') offers a valuable evidence base – especially as the draft plan largely accepts the CCC's advice on overall carbon budgets and sectoral pathways, with some exceptions.

The CCC's analysis and advice is based largely on its UK-level 7th Carbon Budget analysis, with some adjustments made for Scotland. The high-level message here is that the electrification of transport and heating, and to an extent industry, is the critical enabler of emissions reduction and energy demand reduction (as electricity is a much more efficient way to convert energy than using fossil fuels).

The CCC sets out a phased transition from now to 2045/2050, with early emphasis on transport, mid-period emphasis on buildings, and late period reliance on agriculture and negative emissions technologies (NETs). This sectoral pattern is evidence-based and well established, from a least cost path view – although delivery remains challenging. Overall, the CCC's anticipated pace of change is slower in Scotland than the rest of the UK before 2040, then faster after 2040 – this reflects later phase emphasis on land use and NETs in Scotland.

The CCC's recommended overall pathway (as adopted in the draft CCP) is more credible and deliverable than that in the old CCPu. (The CCPu's '75% by 2030' emissions reduction target is not now delivered until the mid-2030s. This is a sensible revision in my view). At the same time, the CCC issues a reminder about 'empty vessel legislation' – setting ambitious targets without delivery mechanism – and notes that the wrong target can hinder policy.

The CCC also observes that Scottish emissions reductions to date have come from a largely reserved sector: energy supply, especially electricity generation. In the future, there will be much greater emphasis on devolved sectors (or partly devolved, where there are interdependence across governments).

In assessing the overall cost of net zero, the CCC notes an important distinction between net cost and gross cost. Average *net cost* is low – less than 0.5% GDP p.a., around £5bn – but upfront costs are high – the savings come later, with breakeven of annual costs not seen until the early 2040s. Upfront, early phase costs are dominated by capital costs in electricity supply and buildings; later period savings come mostly from reduced operating costs in the transport sector. This means a key transition challenge is developing policy mechanisms that can overcome high upfront capital costs and which can take advantage of subsequent lower operating costs; this 'phasing' challenge isn't really addressed in the draft CC Plan.

Another transition challenge is that some sectors are affected more than others – the Scottish oil and gas sector especially, although as the CCC notes, this has already been declining and will continue to decline irrespective of climate policy. Farmers also face particular challenges, and the CCC notes that carbon border taxes may be necessary to protect domestic agriculture. Overall, however, compared to the CC Plan, the CCC's overall analytical focus is identifying least cost / maximum overall welfare ways to decarbonise, rather than specific groups of affected workers and local economies.

In its main report of over 100 pages, the CCC includes a chapter on sectoral contributions. This sets out specific progress indicators for all sectors, with interim targets, and an explanation of how change is delivered in each sector, using new and existing policy interventions.

As well as a substantial main report, the CCC published a methodology report of over 500 pages, including detailed sectoral analysis. It also published a dataset of its balanced pathway, including sector and subsector data, and a summary of supporting evidence and commissioned research that fed into its analysis.

The methodology report includes all the detailed assumptions and analytical tools used in developing the balanced pathway, including technological and behavioural factors, the cross-sectoral and sectoral modelling tools used to develop a system-level analysis, and detailed spreadsheets on all of its data and analyses. The CCC advice becomes convincing because of this detailed presentation of methods and evidence.

The CCC main report also discusses uncertainties, contingency actions and sensitivities, and its methodology report includes a more detailed chapter on uncertainties (such as population, GDP, and costs of key technologies and fuels) and contingencies. The individual sector methods chapters presents contingency actions for each sector – actions to make up for possible shortfalls and further actions in some areas, such as introducing early scrappage schemes for cars and perhaps home boilers, or considering the scope for increased modal shift in transport, based on international evidence.

Uncertainty and contingency analysis is an key part of a robust plan, because any transition pathway will quickly become outdated – the energy and climate world is highly uncertain, and unanticipated developments can quickly materialise. For example, the huge cost reductions in renewable generation (and now battery storage) were largely unexpected, while rapidly increasing energy demand from data centres and AI have quickly become very significant factors in some countries. There are also important wider uncertainties, including trade arrangements, investor confidence, climate change impacts and so on.

In UKERC's written evidence to Parliament on CC Plan scrutiny, I mentioned the need to undertake contingency planning to help make policy delivery more resilient in the face of inevitable uncertainties. I added that the Plan could usefully differentiate between areas where the evidence base is relatively robust and consistent, and other areas where there is still significant uncertainty. Some factors which were highly uncertain at the time of the last Plan (for example, sector pathways for transport and heating) are now much clearer.

This is not just a matter of analytic detail: energy policy is infused with interest groups and lobbying, and transparent evidence and analysis is essential to develop wider stakeholder and public confidence about policy choices and priorities on the hard choices involved.

Detailed comments on the Draft CC Plan

The Scottish draft plan is presented as a short main report – essentially an extended summary – with three annexes. The summary document is presented in descriptive style, as a set of achievements and aims. It also sets the boundaries of the Plan rather narrowly, making clear that developments that are the result of 'market changes' or which are reserved matters are outside the scope of the Plan. This suggests that the Plan is not intended to offer the full picture of the divers, costs, benefits and risks involved in net zero delivery in Scotland.

There are some numbers given in the summary, but they are selective, and presented in an unfamiliar way. Table 1 is a table of 'total savings', with suggested overall savings of £42bn by 2040. Table 2 is 'total costs minus savings and financial benefits', with net costs of just under £5bn by 2040. Surprisingly, there is no table or figure showing how different sectors contribute to emissions reductions over time, nor how annual costs and benefits vary over time; both would be welcome in a final version of the Plan.

It isn't immediately clear how the figures given in the summary report are derived – the summary suggests that details will be offered in the annexes, but there are no cross-references to guide the reader. The summary also highlights Edinburgh Climate Change Institute (ECCI) analysis suggesting total co-benefits of over £6bn – with an implication that the overall benefits including co-benefits of c.£6bn outweigh net costs of £5bn (and this presumably doesn't include damages from climate change), but there are no details on how these aggregate figures are derived.

At the end of the summary doc, sectoral pathways are presented in summary graphic form, showing sectoral carbon budget envelopes for each budget period, and listing of 'key policy drivers' and 'economic opportunities and co-benefits' for each sector, but without quantification, and with no link drawn between the specific policies and emissions reductions.

One question is how the Plan's sectoral carbon budgets were developed, and how similar or different are they from the CCC's advice. This comparison isn't straightforward because the CC Plan's sector classifications differ from the CCC's, so there is no direct read across. For example, the CCC has separate categories for 'industry' and 'engineered removals', while these are grouped together in the CC Plan.

However, because the CCC published detailed spreadsheets for all sectors, it is possible to make some comparisons. This suggests, for example little difference in transport and residential buildings in the CCC and SG pathways, but significantly slower reduction in the CC Plan pathway for non-residential buildings, especially in CB2 and CB3. For agriculture, there is greater emissions reduction in the CCC path, especially for CB2 and 3, related to livestock commitments made by SG in its written response to the CCC report. It would be useful if a fuller sector-by-sector comparison was given in the final version of the Plan.

Annex 1 is on 'Supporting Content' focuses on Just Transition aspects and policy principles. The content here is again mostly descriptive rather than analytic.

Annex 2 is 'Sectoral Annexes'. Surprisingly, there is no introduction or outline to this long annex, and no summary of the main results – both would be welcome in a final Plan. Each sector is presented using the same headings: sector introduction, context / wider alignment, vision, progress since the CCPu, and 'actions to achieve the vision'. The actions are presented at some length, as different intended 'outcomes', with a description of policies and proposals involved in delivering the outcome.

Again, though, the content here is descriptive and summary information – essentially a cataloguing of priorities, policies and proposals. There is no analysis presented on costs or

emissions reductions for specific policies, and no discussion of policy trade-offs, uncertainties or contingencies, as might be expected.

While there is some recognition of wider context – for example, in the energy supply section there is mention of NESO-led strategic planning and the UKG clean power mission – the focus is the Scottish Government's specific areas of responsibility, over and above existing measures.

Annex 3: Monitoring and Analytical Annex.

The monitoring content includes annual emissions monitoring and early warning indicators. These look reasonable, but the CCC has developed a detailed set of progress indicators in its recent advice and reports on progress, and monitoring and evaluation need a degree of independence, so the relationship between government and advisor here needs clarifying.

There is then a set of proposed Just Transition indicators, developed with the JT Commission. I noted the possible tensions or trade-offs involved here in my general comments above, and there are also questions about the robustness of some more subjective indicators (e.g. people reporting improvements to their local area, or participation in decision-making). Clearly these indicators need very careful design, informed by leading public consultation experts. UKERC has expertise in these areas, research groups at the University of East Anglia, led by Prof. Jason Chilvers, and the University of Cardiff, led by Prof. Nick Pidgeon; see: https://ukerc.ac.uk/research/observatory/; https://ukerc.ac.uk/project/deliberating-the-heat-transition/

The rest of Annex 3 is an Analytic Annex, where detailed sectoral and granular analysis might be expected – although the Analytic Annex is rather short for offering this level of detail, at less than 100 pages. At the start of this section there is a brief description of the Plan's overall method:

"The analytical work … has, in general, followed a bottom-up process, whereby policies and proposals, or groupings of policies and proposals, have been assessed for their impact on emissions and costs and benefits. This bottom-up analysis has used various analytical models and estimation approaches appropriate to each context … The component estimates for each policy and proposal or group of policies and proposals have then been summed to give the sector and whole-plan totals. Each element of the analytical process has had its own quality assurance process located at the sector level."

This is fine as high level summary – and as noted earlier, the CCC also now follows a mostly bottom-up / sector-based method – but this statement doesn't indicate *how* policies were costed, *how* their emissions impacts were estimated, and *how* cross-sector / economy-wide analysis and decisions were made. It's unclear where a more detailed statement of the overall analytical approach might be found.

A 'Summary of Impacts' section offers aggregated data on sectoral emissions pathways and costs. For each sector, financial impacts are presented as 'benefits' and 'net costs', over and above a projected baseline. This means that any emissions reductions in the baseline –

including those driven by existing SG and UKG policies already in place, and expected wider actions by the private sector and UK government – are not included in CC Plan costings. The costings presented in the Plan therefore don't attempt to represent the full policy or societal costs of climate policy. It would be helpful if the analytical scope of the Plan was made clearer from the outset, in the summary.

This limited scope is not unreasonable in principle – the UK government followed a broadly similar approach in its recent Carbon Budget and Growth Delivery Plan, in calculating the costs of delivering its Plan against a baseline including existing measures and trends. However, the UKG Plan includes detailed (annual) costings and emissions reductions by policy, a detailed methodology statement with data spreadsheets, and a discussion of uncertainties and delivery risks; these important features are absent in the CC Plan.

The CC Plan presents policy costs in groups of policies for the different budget periods. Here, there are summary tables, including a summary of financial impacts – but only presented as net costs. The gross costs, which can be calculated using the benefits and net cost figures, are around £15bn for the first budget to 2030, £16bn for the second, and £15bn for the third – around £46bn in total. (Scottish Parliament's SPICe team calculated a more precise total delivery cost of £47.1bn https://spice-spotlight.scot/2025/11/25/climate-change-plan-whats-the-background-and-what-does-it-need-to-do/)

It is important to note the major differences between CCC and SG costings: the CCC's costings include all costs, including private and public sector, and UK and Scottish governments. There are important differences in the baselines: the CCC's baseline is defined so as to have no further decarbonisation action, and maintains the stock of low-carbon technologies at present levels. The CC Plan only includes additional public policy costs to the Scottish Government / Scottish public sector – over and above the estimated impact of existing Scottish policies, and expected wider actions by the private sector and UK government, so there will be some future carbon savings associated with expected wider actions incorporated in the Plan's baseline.

For all sectors, the Plan 'banks' the emissions reductions included in the baseline, but only costs for additional measures above the baseline. The CCC costings therefore offer a fuller account of total delivery costs to 2040 than those in the CC Plan.

The distribution of policy costs across different sectors is remarkably different in the SG and the CCC analysis – confirming the very different approaches to costings. In the CCC analysis, total delivery costs are mostly associated with the buildings sector and electricity supply. This pattern has been established for some time, from earlier CCC analysis – but neither of these two sectors incur high delivery costs in the CC Plan.

The reasons for these stark differences appear to be different cost boundaries, and also very different responses to cost uncertainty. In the CC Plan, the energy supply sector incurs zero cost, as responsibilities for delivery here are seen as matters for the private sector or UKG. This means that the very significant costs (and considerable uncertainties) associated with

electricity grid renewal are outside the scope of the Plan. (I discuss the very low cost figure for the buildings sector below).

The rest of Annex 3 presents sector specific details, though even here emissions reductions and policy costings are only presented in aggregate form. Three emissions figures are presented for each sector: sector emissions, baseline emissions and 'policy reductions' for the additional reductions associated with policy measures in the plan, referred to as 'CCP policies'. Policies, and policy costs, are presented in groups of 'policy packages'

Buildings (residential and public)

The CC Plan sets out a relatively modest pace of change in this sector compared to the level of ambition in the CCPu (an ambition that proved undeliverable). Average total emissions in the third budget are only 40% lower than in the first, and most buildings sector emissions reductions are seen in the third budget, 2036-40. The Plan acknowledges that a substantial part of buildings sector costs will be borne by the Scottish Government, with the remainder falling to consumers, businesses and local authorities, but no breakdown is given.

Buildings sector policy costs are remarkably low in the CC Plan, just £3bn in total, compared to £21bn in transport. The Scottish Government's 2021 Heat in Buildings Strategy estimated that the cost of decarbonising buildings to be around £33bn, and the updated Scottish Fiscal Commission report on the costs of climate mitigation suggests that, based on CCC analysis, around three quarters of the overall public costs of policy delivery to 2040 lie in the buildings sector.

Another surprise is that buildings policy costs are much higher in CB1 than CB2 and CB3. It's not immediately clear why costs are so low in CB2 and CB3, when most buildings emissions reductions are expected. The costs of the new build heat standard are included in the sector baseline, so are omitted from CCP policy costs, but this by itself is unlikely account for the very low policy costs in CB2 and CB3, as it only applies to new buildings.

The analytical methodology subsection for buildings mentions 'considerable uncertainty' in the baseline, including temperature, future energy prices, UKG policy decisions and the cost of emerging technologies (although there are no further details). The policy assessment section then presents emissions reductions and costs in policy packages. Key policies and supporting policies within the packages are listed. The draft Plan then says:

"Costs associated with the delivery of the clean heat target are included in CB1 where there is greater certainty on action required. For subsequent carbon budgets the policy levers will be determined based on the outcome of existing SG policy, technologies and UKG policy decisions. As such they are not costed, given their proposal status."

This suggests that costs in the buildings sector associated with meeting the 2045 clean heat target – the largest single costs across all sectors in CCC analysis – are omitted for two of the three carbon budget periods in the CC Plan, because of the uncertainties involved. This startling omission applies to both residential and public buildings. Omitting future policy costs on the grounds of uncertainty (while including future emissions reductions) is highly unusual and difficult to justify analytically.

(My UKERC and Edinburgh University colleague Professor Jan Webb, in her evidence to the Local Government, Housing and Planning Committee, concluded that the Draft CCP implies a 'significant loss of political leadership and momentum on decarbonisation of Heat in Buildings'. She noted that 'Policy 1' for buildings in the draft Plan is a *target* for decarbonising heating systems, rather than a policy – though elsewhere in the draft a policy is defined as a 'direct driver of emissions reductions or the most significant actions that drive emissions reductions').

Transport

This is the single most important sector for delivering emissions reductions in the Plan, and also in CCC analysis. Transport emissions reduce by 68% by 2040 in the Plan – although around half of this projected reduction is already in the baseline.

Total net costs over the period to 2040 are negative, because of similar capital costs for conventional and electric vehicles, and operational cost savings from EVs compared to conventional vehicles. This is uncontroversial and reflects CCC analysis. Policy costs are shared between Scottish Government, local government, industry and consumers.

The transport sector analysis more coherent and convincing than that for buildings, and the Plan states that its transport emissions pathway 'is aligned with the CCC outlook for Scotland'. The description of the transport transition is also very similar to the CCC's, as is the distribution of costs and benefits. There are also more references to research evidence here (including from Transport Scotland) than for some other sectors.

There are three policy packages for transport: EV uptake, modal shift and HGVs. Costs are presented for these packages. Emissions reductions from modal shift are much less than from electrification of vehicle stock. (UKERC research has consistently highlighted the key role of demand reduction and modal shift in transport sector decarbonisation. https://ukerc.ac.uk/publications/ukerc-transport-evidence-compendium/)

As the Analytical Annex proceeds, some methodological inconsistencies emerge across sectors. For example, in the Transport sector the existing ZEV mandate is not included in the baseline (so appears in Policy Package 1, and so is included as a Plan cost) while in buildings, the new homes mandate is included the baseline, and so is excluded from Plan costs.

Energy Supply

As well as electricity supply, this sector includes oil and gas supply, whereas the CCC analysis has separate sections for fuel supply and electricity supply). Non-Road Mobile Machinery (NRMM) emissions are included in the energy supply sector, as a 'temporary home'.

Energy supply achieves 85% emission reductions by 2040 in the Plan. Around half of the energy supply emissions reductions are included in the baseline. NRMM emissions reductions are described as 'stretch targets' and these reductions are banked, even though no policy costings are included – this omission is justified on the grounds that the policy measures discussed here are only proposals.

Energy supply baseline emissions halve over the three budgets, and oil and gas baseline emissions fall by 80%. Emissions reduction in oil and gas supply are seen as 'market driven', so any policy costs are again omitted.

Most of the energy supply issues mentioned in the plan relate to the inclusion of Energy from Waste in the UK ETS – and this is the only key policy package for this sector. On broader energy supply sector developments and costs, the Plan states:

There are no specific costs to government from energy supply policies, and all emissions reductions are expected to be market driven. However, the energy supply sector is expected to see significant investment over the period of the CCP in areas such as transmission networks, renewable energy generation, flexible demand, storage and carbon capture.

This means electricity supply capex – a major cost in the CCC's analysis – is omitted here, and commands little analytical or policy attention in the Plan, including key enablers for delivering the overall Plan, such as grid strengthening, storage and distribution grids.

Supporting policies listed include working with UK government on energy and electricity market reform, and with NESO on CP2030 and SSEP. Market reform and strategic planning are critical issues for the overall deliverability of the Plan, but because they are outside its scope they aren't addressed in costings or delivery risks. It is unfortunate they are not discussed here – and in their absence an updated Scottish Energy Strategy would be very welcome.

<u>Business and Industrial Process</u>

Unconventionally, this sector includes non-domestic buildings and agriculture, as well as business and industry. Overall, this sector sees a 49% reduction in emissions by 2040, mostly from policy reductions rather than those seen in the baseline. There is no explanation of the costs and benefits alongside the sector emissions table, Table 44.

Policy analysis for this sector is more impressive and convincing than for some others: the Plan presents three different modelled scenarios (high, low and central), compared to a baseline with 'no Scottish Government policy'. Emission reductions vary by scenario, so by 2030, emissions in the high scenario are almost 30% lower than in the low one. This is the only sector presenting such a scenario method – and the only sector in which uncertainties are presented quantitatively. I would want to see similar analysis across all sectors.

(The agriculture sector section also cites evidence and recognises uncertainties in a more satisfactory way than some others, with reference to SRUC scenarios developed for CXC, although these are not presented in the Plan itself. Scenarios are also mentioned in peatland workforce projections in the LULUCF sector analysis.)

The baseline description for the business and industry sector is also more detailed than for other sectors, and it is good to see that evidence is more fully cited here than for some other sectors, and relevant UK policies, including CP2030 are discussed. Modelling methods are also mentioned, specifically the NZIP model, used also by DESNZ and CCC.

Industry package 1 (industrial decarbonisation, including UKETS, support for Acorn / Scottish cluster) specifies, for the first time in the draft Plan, emission reductions associated with specific policies. Another welcome feature here is recognition of interactions between different policies.

Indeed, an integrated analytical method is described for this sector in some detail. For example, the way in which the UK ETS is modelled in the NZIP model, and how this was applied in the scenario analysis – this is all well-presented, although no data is provided. Overall, the analysis here is much more convincing than for some other sectors.

For this sector, it also appears that *all* relevant policies are in-scope, and presumably included in aggregated policy costs. Other industrial support policies are also mentioned, including for Acorn and green hydrogen. However, as with other sectors, financial impacts are only presented in aggregate form, and although there is recognition that many of the costs and benefits here will be borne by industry, the public / private breakdown isn't provided.

Non-domestic buildings are also included in this sector. These see a 64% reduction in emissions by 2040. The baseline includes the new build heat standard, and shows modest emission reductions. The approach taken here is very similar to that for domestic buildings, so omits significant policy costs in CB2 and CB3, other than for heat networks. Total policy costs are estimated at £3.4bn, but this is only for CB1. This very partial approach is strikingly different to the fuller recognition of policy costs in other parts of the business and industry sector. Costs are expected to fall heavily on business, but again no breakdown is provided.

Negative Emissions Technologies

This sector is covered in a single page in the Annex (p.66). The analysis doesn't follow the same structure as others in the sector. BECCS and DACCS technologies are only briefly introduced, and there is no cost analysis; instead the Plan simply states: *"The costs of deploying NETS are highly uncertain and cost and benefit estimates for this proposal are not provided. All costs from NETs are expected to fall on government".*

The CCC, in its analysis, refers to NETs as 'engineered removals'. As well as BECCS and DACCS, the CCC includes enhanced weathering and biochar, and detailed evidence for all of these technologies is provided by the CCC; the CCC also says:

"*uncertainties in the engineered removals sector are very large. One implication of this … is the value in having a portfolio approach to the sector. While our analysis illustrates a single pathway for DACCS, BECCS, and enhanced weathering and biochar, there is scope for one or more of the measures to deploy at a different scale … if … the feasibility or cost of another measure proves different to current assumptions."*

This is an important statement of uncertainty associated with emissions reductions from NETs, particularly in CB3. Despite having only cursory mention in the CC Plan, NETs become a significant contributor to emissions reductions over time (12.2 MtCO2e, around 14% of residual emissions, in CB3).

CCC analysis suggests that by 2045, over 20% of residual Scottish residual emissions will be offset by NETs. SPICe analysis suggests that the draft Plan includes twice the level of NETs or engineered removals emissions reductions compared to those seen in the CCC's balanced pathway for CB3. https://spice-spotlight.scot/2026/01/12/climate-change-plan-business-and-industry/

The CCC's methods report includes detailed discussion of NETs' costs, performance and uncertainties; none of this useful content is mentioned or cited in the CCP draft. Recent UKERC research has highlighted how biomass could provide energy system flexibility as well as BECCS-based negative emissions https://ukerc.ac.uk/publications/the-potential-role-for-biomass-as-a-long-duration-store-of-energy-scoping-study-for-the-supergen-bioenergy-hub-and-the-uk-energy-research-centre/ On costs, the CCC assumes that engineered removals are funded by a 'polluter pays' principle, and this is taken to imply UK rather than Scottish responsibility. Overall, the analysis of NETs should be presented more fully in the final CC Plan.

The end of Annex 3 offers a list of all policies and proposals in the Draft Plan. The first sector listed here is 'Heat in Buildings' – though this not a sector title used elsewhere in the Plan. Other groupings are also presented differently here: for example, NETs are now grouped with industrial processes and business, rather than as a standalone sector as seen in the rest of the Plan. The order of the sectors also differs from the rest of the Plan – so energy supply is now at the end of this section. Confusingly, this end-section listing also introduces CB4 (2041-2045) – a period which is outside the CC Plan scope.

This all suggests a lack of integration and consistency in the development and assembly of the draft Plan. As I've described above, the sectoral content and analytical methods in Annex 3 differ considerably across sectors. The overall impression is that the draft Plan was developed in a rather fragmented way, by analytical and policy teams working in sector silos, rather than in any more integrated and consistent way. (There is also a need for more proof reading before publication: there are two 'Table 32's – on p43 and p45).

Annex 4, the consultation questions also vary considerably across different sectors, with several specific questions for some issues (particularly just transition, impact assessment and Strategic Environmental Assessment), and fewer questions elsewhere: just two questions on buildings, and one each for waste, energy supply and business and industry.

The questions also limit the ability to engage. For example, the single consultation question on energy supply restricts responses to the expansion of renewable generation. This is an key matter, but it leaves no opportunity to comment on energy demand levels (such as the expanding demand for electricity from data centres) or opportunities for demand reduction (in CCC analysis, demand reduction makes up around 20% of all emissions reductions by 2045). On transport, one question invites a ranking of key issues driving transition, but without an opportunity to offer any supporting evidence or comments. Finally, the tightly prescribed structure of the consultation questions also means that there is no opportunity to comment on the Plan's overall format, use of evidence and analytical methodology.