Assessing the relative influence of land-use policies on land managers.

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Context

This report is deliverable D1.3 from the “Modelling the socio-economic, greenhouse gas and natural capital impacts of land-use policy and opportunities” project (SRUC-C3-2) within the Scottish Government Strategic Research Programme (SRP) 2022-27.

It builds directly on previous deliverables in Theme C of the SRP, specifically the Policy Coherence Analysis (PCA) led by the James Hutton Institute.

The stages of this previous research were to conceptualise land-use influences from policy, review the relevant policy objectives and mechanisms, and create an assessment framework. The following reports are useful background information:

- Blackstock *et al* (2024) Technical Report on Land-use Policy Coherence Analysis for the Land-use Transformations Project. Project Deliverable D5.3
- Blackstock *et al* (2024) Briefing on Land-use Policy Coherence for the Land-use Transformations. Project Deliverable D5.2
- Infographic: Scottish Land-use Policy Coherence – Joining Up across Domains

Highlights

What were we trying to find out?

Scotland has a suite of different policies relating to land use, reflecting the complexities of balancing different land-use aims, including food production and forestry, environmental protection, climate change mitigation and socio-economic benefits. This research explored the relative influence of different land-use policies on the decision-making processes of a range of different key stakeholders.

What did we do?

We used Q methodology to systematically draw out subjective perspectives on land use and agricultural policy from Scottish land use stakeholders. This Q study involved participants ranking different land-use policies based on their perceived influence on land-use decisions and their ability to achieve their organisation's goals for land-use. Organisations with direct influence over land-use decisions and membership organisations (whose members managed land and made land-use decisions) were interviewed. Interviews with 12 organisations were conducted between February – March 2024.

What did we learn?

The analysis identified 5 distinct *representative* perspectives (factors) on the influence of land-use policies on decision-making processes: (1) 'Conservationists'; (2) 'Public and Community Interests'; (3) 'Food Producers'; (4) 'Private Interests'; and (5) 'Crofting Interests'. There was a high degree of divergence between these perspectives underscoring the contested nature of land-use aims and consequently the land-use policy landscape in Scotland. Key themes emerging from the analysis highlighted the high degree of influence attributed to incentive-based legislation and financial support, the impact of uncertainty, complexity, and lack of clarity within the policy landscape, and a preference for landscape-scale approaches.

What do we recommend?

The recommendations include: (1) establishing a clear framework for financial support and conditions in the Agriculture and Rural Communities (Scotland) Bill[1]; (2) enhancing advisory and knowledge exchange services to support sustainable land-use practices and navigate policy complexities; and (3) implement landscape-scale approaches which can combine democratically informed landscape-scale land-use with targeted regulations and environmental protections. Such a model could be explored in the context of the Scottish Government's commitment to designating at least one new National Park by 2026, in the evolution of the Rural Support Plan that details agricultural and rural development support schemes, the next land use strategy and the upcoming Just Transition Plan for agriculture and land use.

[1] The Bill became an Act on 30 July 2024 but at the time of research was upcoming.

Executive Summary

- Scotland's land-use policies reflect the complexity of balancing various aims like food production, forestry, environmental protection, and socio-economic benefits. Post-Brexit, ensuring coherence among new land-use policies is crucial for aligning with Scottish Government goals, especially achieving Net Zero emissions by 2045 while ensuring a Just Transition.
- Blackstock *et al* (2024) conducted an extensive review of land-use policies, assessing their coherence and transformational potential across various land-use goals. Building on this previous research by James Hutton Institute and Scotland's Rural College, this report analyses the influence of different land-use policies on key stakeholders' decision-making processes.
- This research used Q methodology, an approach which combines qualitative and quantitative methods, to explore perceptions of the relative influence of land-use policy on stakeholders' different land-use goals. This involves a policy ranking exercise combined with semi-structured interviews.
- Organisations with direct influence over land-use decisions and membership organisations (whose members managed land and made land-use decisions) were interviewed. A wide range of different land uses were represented, including agriculture (livestock, arable and crofting), nature conservation, forestry, environmental protection, and community interest in land.
- Analysis identified 5 distinct perspectives (or factors) regarding the influence of land-use policies offering insights into areas of consensus and conflict.
    a) **Conservationists** considered clear environmental protection regulations and guidance as the most influential policy on land use decisions. A key tension for this group related to maintaining the status quo and "protective function" of land-use policy versus a more ambitious nature enhancement ambition for land-use policy.
    b) **Public and Community Interests** viewed inclusive and holistic land-use policies and reform as most influential in land use decisions. There was concern that the *status quo* is not delivering for nature, climate and people and a belief that future funding allocations would prioritise agriculture over rural communities or environmental outcomes.
    c) **Food Producers** noted agricultural support and incentives had the greatest influence on land use decision-making. Recognising uncertainty within the land-use policy landscape, they believed that positive land management should be rewarded over targets-based tools or regulations.
    d) **Private Interests** supported policies which foster opportunities and reward delivery. They perceived the land-use sector as highly regulated and supported greater clarity on the direction of travel for future policy, and its ramifications for private landowners.

e) **Crofting Interests** recognised the influence of existing schemes and land-use policies in underpinning crofting structures and supporting its viability. However, land-use policy was not perceived as enabling crofters and there was concern about the additional burdens introduced by future policy.

- There was a high degree of divergence in opinions on the relative influence of land-use policies between factors. This reflects the contested nature of land-use aims and consequently the land-use policy landscape in Scotland.
- The sole policy factors agreed on was the neutral or low degree of influence attributed to the Good Agricultural and Environmental Conditions (GAECs). This was largely due to the conditionalities introduced by it being perceived as "*marginal"* whilst the funding attached is "*not a game changer"*. There was concern from the Conservationist factor that cross-compliance represents a low bar, targeting nature protection and damage mitigation rather than nature enhancement.
- Despite the high degree of divergence between factors, three key themes emerged from the analysis:

  (1) Firstly, incentive-based legislation with financial support drives land-use decisions, with clarity and magnitude of funding often determining the degree of influence.

  (2) Secondly, uncertainty surrounding new legislation, lack of clarity in Scottish Government intent, the complexity and volume of land-use policy, and policy divergence between Scotland, the UK, and EU contribute to a challenging policy landscape for single land-use types and those engaged in multiple land-uses.

  (3) Thirdly, there was support for landscape-scale approaches to promote holistic land-use and management strategies informed by local priorities. There was general support for the Regional Land-use Partnerships model, although the National Parks (Scotland) Act 2000 was not considered an effective means of promoting landscape-scale management.

- Policy recommendations include:

  (a) Ensuring clarity and coherence in support mechanisms set out in the Agriculture and Rural Communities (Scotland) Bill (now Act), perhaps by creating a baseline framework to which support mechanisms and policies can be "bolted on".

  (b) Continued support for advisory and knowledge exchange services to aid landowners and managers was supported.

  (c) Exploration of landscape-scale approaches like Regional Land-use Partnerships which can combine holistic land-use strategies with targeted regulations and protections where required.

Contents

1 Introduction

Scotland has a suite of different policies relating to land use, reflecting the complexities of balancing different land-use aims, including food production and forestry, environmental protection, climate change mitigation and socio-economic benefits. Considering many of these policies were once directly influenced by the European Union, there is a need to ensure new land-use policies are coherent[2] and helping to achieve the goals of the Scottish Government. In essence, policies should not directly conflict with each other, and joined-up delivery is achieved by ensuring there is both vertical and horizontal coherence (see Blackstock *et al* (2018)).

The Scottish Government aim to reach Net Zero[3] by 2045 but want to ensure a 'Just Transition' whereby those who have to make major changes to their behaviours or activities do not suffer disproportionately. This includes landowners and land managers who are seen as key stakeholders in helping to achieve this goal. However, reaching Net Zero (as a policy objective) is in direct conflict with other important land uses like food production, and some of the nature-based solutions (such as tree planting) may have negative socio-economic and cultural effects on rural communities.

This Research Report builds directly on previous research conducted by James Hutton Institute (JHI) and Scotland's Rural College (SRUC), therefore, a brief explanation of this is required. Blackstock *et al* (2024) conducted an in-depth review of 66 relevant land-use policies (including primary legislation, steering strategies and policy instruments), firstly as to whether they helped achieve any of the five goals (climate mitigation, biodiversity, climate adaptation, rural prosperity, and justice and inclusion) and how transformational they each were. The analysis went on to identify 169 connections between 54 different policies (see this infographic), and demonstrated both the vertical and horizontal coherence between these. Further, the analysis looked at the different Directorates who oversee these policies, identifying the key players and helping to visualise the complexity of policy ownership across different departments (see p.23 of Blackstock *et al* (2024)). Finally, the results were triangulated through interviews with key policy makers across these different Directorates to sense-check results.

The aim of this current Research Report is to take the analysis forwards, by exploring the relative influence of different land-use policies on the decision-making processes of a range of different key stakeholders. A Q methodology study was implemented to quantitatively and qualitatively comment on the varying levels of influence that different policies had on those with differing land-use goals.

[2] Policy coherence means connecting the objectives, instruments and implementation practices within a policy; and between different policies, including across different policy domains.
[3] Net Zero is a term denoting that a country does not emit more carbon than it sequesters. This is achieved by both lowering emissions and increasing sequestration.

Organisations who had a direct influence on land-use decisions and membership organisations (whose members managed land and made land-use decisions) were involved in the research. This was instead of recruiting individual landowners/ managers which ran the risk of becoming too site-specific on heavily biased by individual circumstance.

Therefore, each participant was asked to assess the relative influence of 40 selected policy mechanisms on their (or their members) land-use decisions. A wide range of different land uses were represented, including agriculture (livestock, arable and crofting), nature conservation, forestry, environmental protection, and community interest in land.

The methodology for this work will be presented in the next section, followed by the main findings and policy recommendations.

2 Methodology

Q methodology is a mixed methods approach which combines qualitative and quantitative analysis to explore attitudes, perspectives, or opinions. It aims to analyse subjectivity (perspectives) in a systematic, rigorous way using statistical analysis (factor analysis) to identify the full range of perspectives that exist on the study topic (Barry and Proops, 1999; Brown 1996). Q methodology has been previously used in a range of environmental and land management contexts (Sneegas et al., 2021; Seghezzo *et al.,* 2023; Kvakkestad *et al*, 2015; Vargas *et al*, 2019).

Participants are asked to consider a consolidated group of statements ('Q statements') representative of the wider range of opinions or perspectives that exist on a topic (the 'concourse'). Participants' opinions are elicited through a ranking process whereby participants sort the Q statements onto a structured grid, requiring participants to make relative comparisons of statements (Sanbrook *et al.,* 2011). This produces a 'Q sort' for each participant representing their attitude or perspective on the topic. Asking participants to sort statements onto a predetermined grid shape allows comparison and statistical analysis between participants' opinions (Webler, Danielson, and Tuler, 2009). This quantitative analysis identifies patterns between participants' responses, grouping individuals who have ranked statements similarly (Herrington and Coogan, 2011). This produces 'factors' which can be considered representative of the differing groups of perspectives identified through this process.

Ranking statements were combined with semi-structured interviews. This qualitative interview was crucial to the interpretation of results, by investigating why specific choices were made (Addams and Proops, 2000).

Q methodology is useful in investigating contentious or contested topics where trade-offs exist (Addams and Proops, 2000), such as land-use and land management, as different stakeholders often view policy problems and solutions in unique ways (Moldenveld, 2020). By exploring patterns, Q methodology can identify areas of consensus and conflict, dominant, and minority perspectives which can provide valuable insight into policy discourse (Moldenveld, 2020) and promote deeper understanding between stakeholders and policymakers (Addams and Proops, 2000).

2.1 Study Approach

This section sets out the design and methodology of this study. The first stage was to create the 'concourse' which is the full range of opinions or perspectives (i.e. the land-use policies). As a starting point, we used the 66 policies outlined in Blackstock *et al's* (2024) policy coherence analysis, deeming this to be representative of the policy landscape facing land users/ land managers.

Q methodology can be cognitively taxing and time-consuming. Studies typically contain between 20-50 statements to mitigate participant fatigue (Webler, Danielson, and Tuler, 2009). Therefore the concourse for this study was refined to 40 policies (see Appendix 1 for the final list). To refine the list, policies were categorised according to 12 themes (planning policies, land reform, environment, agriculture, economic development, biodiversity/conservation, climate change, water, forestry, food, natural capital, and energy). Some older policies had been subsumed by more recent versions and therefore were excluded. In some instances, high-level strategies or plans were removed due to their lack of binding requirements[4], whilst some strategy documents were deemed suitable for inclusion if their central focus was on land use[5].

Finally, a prompt question and the 'Q grid' were developed and piloted for the ranking process. To understand the relative influence of land-use policies on decision-making processes, participants were asked about their (or their members') land-use goals and how policies influenced their decision-making to achieve these goals. Participants were then asked to rank policies according to their degree of positive or negative influence using the prompt question and Q grid shown in Box 1. The shape of the grid means that statements with "most meaning" are placed in the outer columns (most positive and most negative influence) where there is space for just 2 land-use policies. This forces participants to make relative comparisons of land-use policies and determine those which have the most extreme degrees of influence on land-use decisions.

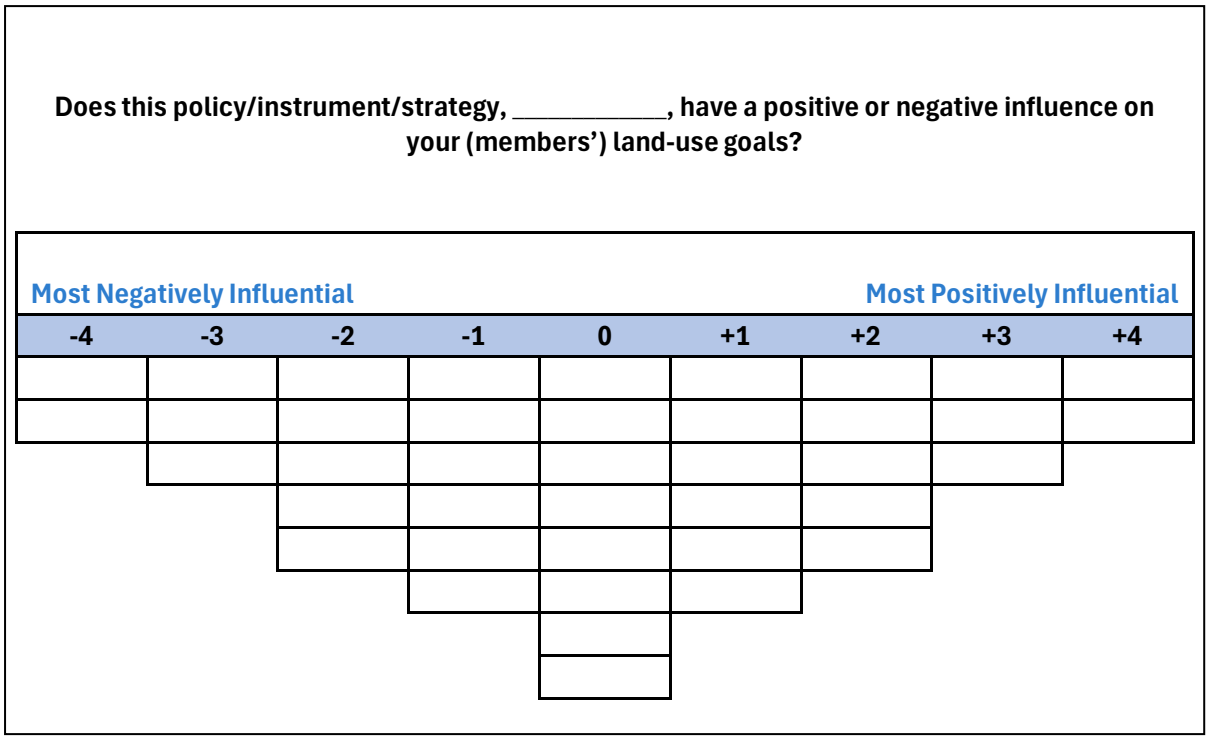
A semi-structured interview framework was developed to explore the rationale for the placement of policies (especially at the extremes of the Q grid), as well as the relative influence of different policy mechanisms, and other policies not included in the Q set.

Participants in Q-method studies are typically purposively sampled. Participants were recruited primarily through their membership in the Scottish Government's Agriculture and Rural Development Stakeholder Group and supplemented with other groups whose interests were not represented. These organisations represent a broad range of perspectives and land-use goals and have a high degree of policy knowledge.

Perspectives from agriculture, crofting, and estates membership organisations, public bodies, conservation charities and organisations, and rural communities were included in the sample of 12 stakeholders. These were largely representative organisations, whilst 2 of the conservation organisations also owned and managed land. No forestry related stakeholders participated in the research.

[4] For example: A Scotland for the future: opportunities and challenges of Scotland's changing population.
[5] For example the Land Rights and Responsibility Statement.

Box 1: Research question and Q grid used by participants in the study.



The 12 interviews were conducted between February – March 2024 using Microsoft Teams and lasted one hour on average. The 'Q sort' was conducted using an Excel Workbook, with all participants opting for the interviewer to share their screen and complete the sort as the participant dictated their responses.

The results were analysed using a Factor interpretation approach recommended by Watts and Stenner (2012), in line with typical Q methodology practice. Q sorts were quantitatively analysed in R using the 'qmethod' package which uses factor analysis to group together Q sorts with similar patterns of statement placement. This helps identify 'defining' statements, whose relative placement distinguishes perspectives, and develop a discourse for each factor by incorporating the qualitative interview data. Thematic analysis of interview responses was conducted using the approach suggested by Braun and Clarke (2006) to provide additional context to the factor descriptions. The final number of factors, or perspectives, identified was determined mathematically, by satisfying the two statistical significance tests set out by Webler, Danielson, and Tuler (2009), and qualitatively, considering the four principles of simplicity, clarity, distinctness, and stability.

3 Findings

The initial statistical analysis identified four distinct factors[6]. Through iterative comparison of interview responses and quantitative data, a decision was made to add an additional factor, bringing the total to five. A *representative* Q sort (an idealised or 'average' perspective) for each factor is presented in Appendix 2.

Below we present a discourse for each factor, highlighting distinguishing statements and narratives driving perceptions around the different land-use policies. We then explore points of contention and consensus between factors. Finally, we highlight some key emergent themes from the post-sort interviews.

3.1 Factor 1 - Conservationists

The factor is made up of three participants and consists of 13 distinguishing statements. The land-use goal of this factor centred on nature protection, conservation, and enhancement. This ranged from a local level (site-specific – either a reserve they manage or larger designated areas) to a broader (sometimes national) level, considering landscape, biodiversity, and environment[7]. Climate change was a key concern. They may have managed land for the benefit of nature and the environment and therefore had operational "on the ground" experience of the relative influences of land-use policy. However, they approached this from a strategic policy perspective. A key tension for these 'Conservationists' arose from the distinction between maintaining the status quo and the *"protective function* [of land-use policy] *as opposed to a positive enhancing or promoting nature conservation function"*.

'Conservationists' viewed the "protective function" of legislation, regulation, and designated site provisions as important and a strong positive influence on land use and land management[8]. The legislative backing of the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2011 meant they were *"focused… there's been a consistent process of applying them, they have had a significant influence otherwise we would have lost quite a lot of sites"*. Similarly, the Management of Wild Deer in Scotland: Deer Working Group report was viewed as positively influential with clear and practical recommendations which led to real improvements to nature and biodiversity.

These 'Conservationists' saw a trade-off between (economic) development and achieving good outcomes for biodiversity and climate through land use and land management. The policies considered most negatively in terms of influencing land use decisions were Tourism in Scotland: the economic contribution of the sector,

[6] In Q method terminology, a factor is effectively a 'grouping' or 'categorisation'.
[7] Environment was considered holistically, to include air, water, soil etc. protection and enhancement.
[8] E.g. the Nitrates Directive: The Action Programme for Nitrate Vulnerable Zones (Scotland) Regulations 2008, the Sustainable Use of Pesticides Directive 2009/128/EC, The Water Environment (Controlled Activities) (Scotland) Regulations 2011, the Nature Conservation (Scotland) Act 2004, and the Wildlife and Natural Environment (Scotland) Act 2011.

Housing to 2040, and the Scottish Energy Strategy: The future of energy in Scotland. They perceived house-building targets as a blunt tool and considerations for embedding biodiversity within the policy as *"nice to have"* rather than *"mandatory"* for developers. Although the Scottish Energy Strategy's drive towards renewable energy sources may have an indirect, long-term positive influence, this factor saw the direct, short-term costs for nature and biodiversity as more pertinent.

When considering "good" outcomes for nature and biodiversity they viewed the Scottish Biodiversity Strategy to 2045 and the National Planning Framework 4 as notable in that they make *"an attempt to mainstream… the climate and nature emergency in one breath… making moves towards addressing them coherently"*. For instance, requirements for Nature Networks in Local Place Plans were noted as a "huge success". The ranking of the Scottish Biodiversity Strategy to 2045 as positively influential was however heavily caveated. Whilst a promising aspiration and vision striving towards enhancement rather than damage limitation, its degree of influence and impact hinges on its delivery plan and implementation. Whilst strategies were considered a useful part of the policy toolbox, these 'Conservationists' stressed that strategies need to be effectively linked to legislation, delivery plans, and outcomes[9].

The incentivising role of policy was noted in encouraging positive land management. The Agri-Environment Climate Scheme (AECs) as the *"largest pot of money going to the environment"* was viewed as influential, having funded positive action. However, this group saw a clear need for scrutiny, monitoring, and evaluation of the distribution of public money. Both the Less Favoured Area Support Scheme (LFASS) and Good Agricultural and Environmental Conditions (GAECs) were cited as poorly targeted, with few links to associated environmental conditions that send land managers an overall negative message that meeting minimum standards through cross-compliance is "enough".

3.2 Factor 2 – Public and Community Interests

This 'Public and Community Interests' factor included four participants and consisted of nine distinguishing statements. Regarding the Q sort for this factor, many of the policies were viewed as neutral[10] as these were concerned with the specificities of managing land. Therefore, the sorting had a slight negative bias, although qualitatively these should be viewed as neutral. These 'Public and Community Interests' participants' land-use goals related to wider public interests in land and its role in communities, climate change, and biodiversity provisioning. Participant

[9] The Just Transition – A Fairer, Greener Scotland: Scottish Government Response and the Land Rights and Responsibility Statement were also viewed positively in their ambition but low/neutral in their influence.

10 Including: Scottish Soil Framework, Nature Conservation (Scotland) Act 2004, the Scottish Plant Health Strategy, Sustainable Use of Pesticides Directive 2009/128/EC, Tourism in Scotland: the economic contribution of the sector and the Conservation of Salmon (Scotland) Regulations 2016.

stakeholders did not own land or have direct influence over land-use decisions. However, these participants did see themselves as representing those who would like greater diversity of ownership (i.e. more community and public) of land and improved access to decision-making on land which directly affects surrounding communities. Their concerns centred around procedural justice and inclusion. They believed that the *status quo* does not deliver for nature, climate, or people and campaign for change. There was support for a holistic approach to land use policy, and thus ranked policies based on their high level, or strategic influence, highlighting the direct influence of policy as well as its indirect role as a signal of government intent.

Land reform was perceived as particularly positively influential[11], especially from a procedural justice and community inclusion perspective. Aspects of the proposed Land Reform (Scotland) Bill[12] were described as "*potentially transformational*" linked to the view that "*communities are at the heart of the proposed bill*" and its effects on "*culture and behaviour*". There was a belief that this would promote long-term, integrated land management for the public good. Although limited in the strength of its influence, the Land Rights and Responsibility Statement was also perceived to inform good practices for landowners and communities. Similarly, the Just Transition – A Fairer, Greener Scotland: Scottish Government Response was viewed as a positive sentiment, although its degree of influence was questioned.

There was strong support for holistic policy making and a belief that a single-issue focus approach can lead to blind spots and policies failing to have the desired impacts. The Agriculture and Rural Communities (Scotland) Bill (now Act) was viewed positively due to its integrated approach to land use encompassing nature, climate, and rural communities. The size of the budget for support schemes was considered influential: "*In terms of farmers, crofters, land managers… there's no motivation better than actually funds"*. However, there was concern that direct support payments would continue to be disproportionate compared to funds for rural communities or environmental outcomes.

Both Scotland's National Strategy for Economic Transformation and the National Planning Framework 4 were viewed positively as creating "*systemic changes that the government aspires to see*" and to ensure "*the economy grows in a way which is sustainable and fair*" at both the local authority and national (strategic) level. It was deemed too soon to fully measure the delivery and influence of both. Whilst nature and biodiversity are well accounted for in these policies, the nature and scale of opportunities in rural and island Scotland were not perceived to be integrated effectively and were seen as a missed opportunity.

[11] E.g. the Crofting Reform (Scotland) Act 2010 and the Land Reform (Scotland) Bill.
[12] The Bill was introduced on 13 March 2024.

This was not the case for the National Plan for Scotland's Islands which was highlighted for championing island communities issues in policymaking, aligning with the procedural justice views of this factor. Further, Housing to 2040 was recognised as positively influential, addressing issues faced by both island and rural communities alike.

This 'Public and Community Interests' group viewed power dynamics, a lack of recognition of the current degree of environmental damage, and a reticence to drive short-term change as contributing to a discourse of delay, making adaptation more difficult in the future. For instance, there was a perception that lobbying interests resulted in "*watered down*" legislation making it less effective than originally proposed[13].

3.3 Factor 3 – Food Producers

This 'Food Producers' factor consisted of two members and four distinguishing statements. This group reflected the wide ranging views of the Scottish agricultural and food production sector (with the exception of Crofting, discussed in Factor 5). This encompasses a broad diversity of agricultural interests across scale, type (arable and livestock), and location. Their land-use goal centred on a profitable sector and its future sustainability. They generally approached this 'Q sort' exercise from a high-level policy perspective, recognising the tension in reaching a single position whilst representing such a broad church of interests. They acknowledged the importance of agriculture's role in land-use and land management decisions, delivering across the rural agenda spectrum, including supporting food security and supply chains, as well as having important roles to play in mitigating the biodiversity and climate crises. For this group, rewarding positive land management was more effective in achieving national land-use goals.

A strong Scottish Plant Health Strategy was perceived as *"critically important…[providing] help and support to maximise our potential and minimise risks"*. Given reductions in pesticide availability and use[14], climate change, extreme weather events, and EU exit-related biosecurity challenges the influence of the Scottish Plant Health Strategy was considered strongly positive. In order to provide more support, this group thought it should link with a Soil Health Strategy and feed directly into the Agriculture and Rural Communities (Scotland) Bill (now Act).

Agricultural support and incentives were perceived as having *"a really significant impact on the way farmers operate… it is the one thing that really changes farmer behaviour in my experience"*. For this group of participants, delivering a public good should be cost-neutral. Legislation, regulation, and controls were less attractive

[13] In relation to the Nitrates Directive: The Action Programme for Nitrate Vulnerable Zones (Scotland) Regulations 2008 which was ranked as strongly negatively influential.
[14] citing the Sustainable Use of Pesticides Directive 2009/128/EC.

policy options as they internalise costs for farmers which are not reflected in market returns[15].

The changing policy landscape facing this sector was recognised. Current schemes were viewed as positively influential in supporting the Scottish agricultural sector[16]. Uncertainty in the policy space[17] was stated as having a short-term negative influence in delaying investment decisions, and decisions around tenancies. The Agriculture and Rural Communities (Scotland) Bill was highlighted by far the most influential policy facing this factor. Despite the uncertainty, they were optimistic about the long-term outcomes of the legislation. This group perceived market forces as more influential on development and planning decisions which might affect them than some land-use policies[18].

Targets-based tools[19] were viewed negatively, especially the focus on emissions reductions rather than maximising sequestration which was deemed unfair for an industry that *"involves biological processes and we're involved in the carbon cycle"*. Measures to deal with climate change were not intrinsically "bad", but targets and the associated conditionality requirements were seen to involve trade-offs and productivity loss for agricultural businesses.

3.4 Factor 4 – Private Interests

This 'Private Interests' factor included two participants and consisted of seven distinguishing statements. The 'Private Interests' stakeholders were defined by private land ownership and the attitudes that stem from private ownership rights (e.g. around economic gain, navigating regulations or tenancy agreements, local employment). These stakeholders represented a broad range of land-use types including large-scale agriculture, forestry, and estates. They perceived the land-use sector as highly regulated, advocating for policies that facilitate delivery rather than imposing control and intervention. Moreover, they were keenly attuned to the uncertainty inherent in the policy landscape and its ramifications for private landowners. There was an attitude that private owners could serve as effective partners in achieving social and environmental objectives.

[15] For instance, requirements under the Nitrates Directive: The Action Programme for Nitrate Vulnerable Zones (Scotland) Regulations 2008 and the Water Environment (Controlled Activities) (Scotland) Regulations 2011 were perceived as costly and burdensome for agriculture and poorly linked to effective management.
[16] Citing the Agri-Environment Climate Scheme and the Scottish Rural Development Programme (SRDP).
[17] E.g. around the Agriculture and Rural Communities (Scotland) Bill and the Land Reform (Scotland) Bill.
[18] E.g. National Planning Framework 4, the Sustainable Use of Pesticides Directive 2009/128/EC, Climate Change (Scotland) Act 2009 and the National Plan for Scotland's Islands.
[19] E.g. Climate Change (Emissions Reduction Targets) (Scotland) Act 2019.

Policies which were perceived to foster opportunities and reward delivery[20] were ranked as most positively influential by those aligned to the 'Private Interests' factor. However, concerns were raised about the potential oversimplification of narratives around land-use choices, particularly evident in the Forestry and Land Management (Scotland) Act 2018, which risked framing a binary choice between forestry and agriculture and did not suggest a blended approach. It was also perceived as creating additional burdens for community engagement.

When considering agricultural land uses, financial support (through subsidies) was underscored as crucial[21]. However, uncertainties surrounding the future trajectory of agricultural policy loomed large: *"There's a lot of argument out there over where the money should go to, what areas, and who requires it most"*. The Scottish Rural Development Programme (SRDP) was seen as *"the most important thing that's out there at the moment*" in providing certainty over payments and facilitating business development.

Continuing the theme of uncertainty, two policies were viewed negatively[22]. The Just Transition – A Fairer, Greener Scotland: Scottish Government Response document was criticised for its lack of clarity and ambiguity regarding its implications for landowners. The Land Reform (Scotland) Bill was also seen to clash with individual property rights, particularly around state intervention in land fragmentation and the sale of land.

Government intervention was generally viewed negatively, as exacerbating an already over-regulated sector. For instance, the Management of Wild Deer[23] was perceived to have *"caused some greater conflicts and the improvements were happening without that report"*. Similarly, the Sustainable Use of Pesticides Directive 2009/128/EC was perceived as placing limitations on land managers whilst expecting consistent yields.

Despite generally viewing the influence of strategies and statements as limited, Towards a Robust, Resilient Wellbeing Economy for Scotland: report of the Advisory Group on Economic Recovery was perceived as relatively positively in influencing land use. This group perceived economic growth as underpinning social and environmental outcomes, *"if you haven't got the money in businesses there, you can't then be putting money back into the land to improve it"* so the wellbeing economy *"has to be seen in a positive manner*". There was a call for greater acknowledgement from policymakers regarding the role of private landowners as delivery partners in the wellbeing economy.

[20] Such as The Scottish Government's Rationale for Woodland Expansion, Peatland and energy: Draft policy statement, and the Scottish Energy Strategy: The future of energy in Scotland.
[21] Including the Agri-Environment Climate Scheme and Less Favoured Area Support Scheme.
[22] The Just Transition – A Fairer, Greener Scotland: Scottish Government Response and the Land Reform (Scotland) Bill.
[23] In the Management of Wild Deer in Scotland: Deer Working Group report.

3.5 Factor 5 – Crofting Interests

The 'Crofting Interests' factor comprises a single perspective, therefore the analysis was purely qualitative, highlighting policies ranked as extremes in the Q sort. These stakeholders represent the interests of crofters, embodying a spectrum of land-related activities from traditional crofting to horticulture, agri-tourism, and nature restoration projects. Their land-use goals revolved around individual circumstances and generally were not (solely) economically motivated. Policy rankings were informed by their direct impact on individual crofters, however, the diversity of opinions and land-use types within this group gave rise to tensions during the ranking process. There was a general sentiment that land-use policy fails to support or enable crofters to pursue their land-use goals.

The diversity within crofters resulted in several policies being ranked neutrally[24], reflecting tensions between "two camps". Such policies were perceived as both opportunities for crofters (financially and in restoring land and biodiversity), but also as threats to "traditional" crofting practices. This was compounded by perceptions of poor knowledge exchange and education on peatland restoration and its implications for crofters. There was also concern that policy was not keeping pace with changes in the land-use sector, notably in relation to natural capital which is *"making everybody really nervous"*.

The Less Favoured Area Support Scheme was deemed highly positive influence on land use decisions, being crucial for crofters' viability: *"they couldn't really manage without it"*. However, there was a prevailing perception that existing land-use policy does not adequately reward "environmentally friendly" crofting practices. Supporting this perspective, the Agri-Environment Climate Scheme was considered as having a strongly negative influence due to the apparent scale barriers that exist for smallholders who have tried to enter the scheme.

Policies attentive to the crofting context were ranked as positively influential. The Management of Wild Deer in Scotland: Deer Working Group report was viewed as positively influential for crofters engaged in woodland projects. Similarly, the National Plan for Scotland's Islands was praised for its intent to address island-specific challenges although its actual influence on land-use decisions remained uncertain.

In comparison, those policies which placed additional burdens on crofters were ranked as negatively influential[25]. The Agriculture and Rural Communities (Scotland) Bill[26] was deemed most negatively influential by this factor. Requirements around future Whole Farm Plans and Carbon Audits were highlighted as examples of mounting administrative and financial burdens on crofters. It was reported that this may lead to crofters discontinuing their practices, with knock-on impacts for rural

[24] Notably the Peatland and energy: Draft policy statement and the Scottish Energy Strategy: The future of energy in Scotland and Interim Principles for Responsible Investment in Natural Capital.
[25] National Parks (Scotland) Act 2000, the Agriculture and Rural Communities (Scotland) Bill and the Wildlife and Natural Environment (Scotland) Act 2011.
[26] The Bill became an Act on 30 July 2024 but at the time of the research was upcoming.

communities, supply chains, the climate, and biodiversity. Controls and licencing requirements around muirburn, particularly in relation to new legislation, were also perceived as limiting traditional (and perhaps undervalued) land management practices.

Concerns also surfaced regarding high-level land policies. While the Land Rights and Responsibility Statement and the Land-use Strategy 2021-2026 were both considered positive in intent but weak in delivery, the Land Reform (Scotland) Bill was viewed with greater positivity on the basis of promoting small-scale, diverse land ownership. Despite underpinning crofting, the Crofting Reform (Scotland) Act 2010 was considered one of the least influential policies. Described as a point of *"frustration"* and *"clunky, constraining and not fit for the modern age"* it was perceived to contain provisions which *"severely hamper people sometimes doing what they want to do"*.

3.6 Consensus

Perhaps unsurprisingly, there was only one area of consensus among all 5 factor groupings. Good Agricultural and Environmental Conditions (GAECs) were perceived neutrally by all groups (albeit with slight deviation for 'Conservationists', whose land-use goal focused on nature conservation). For the non-Conservationists groupings, GAECs were considered uncontroversial and of low influence on land use decisions. Although GAEC introduces some conditionalities, these were either perceived as "*marginal*" or in the pursuit of good outcomes, whilst the money attached was "*not a game changer*". For Conservationists' (Factor 1), although GAECs provide guidance and link support payments to weak environmental conditions there was a concern that cross-compliance represented a low bar. These minimum standards were therefore perceived as being marginally negatively influential in that their influence in promoting nature enhancement, as opposed to protection or mitigating further damage, was weak. This negative lean was mostly driven by the perception of one participant.

The lack of consensus observed between stakeholder in the different factors underscores the contested nature of land-use aims and consequently the land-use policy landscape in Scotland[27].

[27] Policies with the highest degree of variance in factor rankings are Housing to 2040, the Agriculture and Rural Communities (Scotland) Bill, the Agri-Environment Climate Scheme, Less Favoured Area Support Scheme, Climate Change (Emissions Reduction Targets) (Scotland) Act 2019, Just Transition – A Fairer, Greener Scotland: Scottish Government Response, The Scottish Government's Rationale for Woodland Expansion, Nitrates Directive: The Action Programme for Nitrate Vulnerable Zones (Scotland) Regulations 2008, and the Land Reform (Scotland) Bill.

4 Discussion

Several key discussion points arise from the analysis. Firstly, incentive-based legislation (with associated financial support) was widely regarded as most influential on land-use decisions across all land-use types. Opposingly, strategy documents were largely perceived to have limited or no direct influence. The magnitude of funding attached to policies dictated the degree of positive influence. For instance, the Agriculture and Rural Communities (Scotland) Bill ranked higher than the Scottish Rural Development Programme (SRDP) due to the "*modest*" funding allocated to the SRDP, despite being *"really valuable where it provides support"*. Those with autonomy over their land-use decisions ('Food Producers' 'Private Interests', and 'Crofting Interests') favoured rewarding land-use that contributes to wider social, climate, and nature outcomes, as opposed to compensatory schemes. 'Conservationists' and 'Public and Community Interests', representing nature, biodiversity, and public interest in land, emphasised the importance of thorough scrutiny of public funds based on outcomes.

All factor groupings recognised the complexities of balancing different land-use aims within increasingly constrained budget allocations. Their perceptions of the optimal policy mix varied, however, there was general consensus on the importance (and potential underutilisation) of providing advice and knowledge exchange services for land managers[28].

Secondly, uncertainty has permeated the policy landscape in several areas. Uncertainty around new and upcoming legislation explained a high degree of variation in perceptions of policies between factors[29]. For example, the Agriculture and Rural Communities (Scotland) Bill was universally acknowledged as influential. However, (due to uncertainty around the funding details within the Bill) the participants were unsure of the overall effect it would have.

A lack of clarity around the Scottish Government's intentions regarding the direction of travel for land-use policy increased uncertainty. 'Private Interests' stakeholders, for instance, cited both the Sustainable and Regenerative Farming - next steps: statement and Just Transition – A Fairer, Greener Scotland: Scottish Government Response as lacking clear definitions and sectoral focuses. The complexity and sheer volume of policies exacerbated perceived uncertainty, posing challenges for both single land-use types (as represented by ('Food Producers' and 'Crofting Interests') and those engaged in multiple land uses. Increasing policy divergence

[28] Referencing the Knowledge Transfer Innovation Fund and Farm Advisory Service as part of Scottish Rural Development Programme (SRDP), nutrient management in relation to the Nitrates Directive: The Action Programme for Nitrate Vulnerable Zones (Scotland) Regulations 2008, peatland restoration and forest management, the Scottish Plant Health Strategy, and the Interim Principles for Responsible Investment in Natural Capital.

[29] particularly the Agriculture and Rural Communities (Scotland) Bill and relatedly AECs, GAECs, LFASS, and SRDP.

between Scotland, the UK, and Europe was also highlighted as increasing uncertainty.

Thirdly, all factors highlighted a preference for landscape-scale policies and planning approaches[30]. There was consensus that such an approach would promote holistic land use and management strategies informed by local priorities. The National Parks (Scotland) Act 2000 was largely viewed as negatively influential, not perceived as an effective means of promoting landscape scale management. 'Conservationists' were the only factor to rank this policy as positively influential. By contrast, Regional Land-use Partnerships were largely supported as a potentially effective model for implementing democratically informed landscape-scale land use[31].

5 Conclusion and Policy Recommendations

This research aimed to understand the perceived influence that a suite of land-use policies have on the decision-making processes of a range of key stakeholders. To achieve this, representatives of membership organisations and public organisations involved in land-use decisions ranked 40 land-use policies.

The research builds on previous research conducted by James Hutton Institute (JHI) and Scotland's Rural College (SRUC) which reviewed the contribution and transformational nature of land-use policies, identified connections between different policies and demonstrated vertical and horizontal policy coherence, and visualised the complexity of policy ownership across different Directorates (Blackstock *et al* 2024).

Using Q methodology, a means of systematically analysing subjective opinions, this Research Report builds on previous analysis by identifying five factors, and distinct *representative* perspectives regarding the influence of land-use policies on decision-making processes. The five factors identified were:

- **Conservationists**, who saw clear regulations and guidance on environmental protection as most influential. A key tension for this factor is related to maintaining the status quo and "protective function" of land-use policy versus a more ambitious nature enhancement ambition for land-use policy.
- **Public and Community Interests**, who view inclusive and holistic land-use policies and reform as most influential. There was a concern that the status quo is not delivering for nature, climate and people and that future funding allocations would preference agriculture over rural communities or environmental outcomes.

[30] This was often prompted by discussion of policies such as Good Agricultural and Environmental Conditions (GAECs), Forestry and Land Management (Scotland) Act 2018, the River Basin Management Plan 2021-2027, the Flood Risk Management (Scotland) Act 2009, and in relation to wider discussions around land-use and food production.
[31] Although not unanimously. Whilst supportive of landscape or "catchment" scale planning, one participant did not believe Regional Land-use Partnerships was the "right" model.

- **Food Producers,** for whom agricultural support and incentives were most strongly positively influential on decision-making. Recognising uncertainty within the land-use policy landscape, they believe that positive land management should be rewarded over targets-based tools or regulations.
- **Private Interests,** who support policies which foster opportunities and reward delivery. They perceive the land use sector as highly regulated and support greater clarity on the direction of travel for future policy and its ramifications for private landowners.
- **Crofting Interests,** who recognise the influence of existing schemes and land-use policies in underpinning crofting structures and supporting their viability. However, land use policy was not perceived as enabling crofters and there was concern about the additional burdens introduced by future policy.

There was a high degree of divergence between factors regarding the relative influence of land-use policies, with just one policy on which all factors agreed[32]. There were 11 policies that were ranked as the most, or second most, positively influential by one factor grouping and the opposite for another factor grouping. These divergences reflect the high degree of contention between different land-use aims and consequently the land-use policy landscape in Scotland.

Three key themes emerged from the qualitative analysis. Firstly, incentive-based legislation with financial support was seen as most influential on land-use decisions, with the degree of influence often attributed to the magnitude of funding. Strategy documents without effective delivery plans were perceived as having limited influence. Secondly, uncertainty in new and upcoming legislation, a perceived lack of clarity from the Scottish Government, the complexity and volume of land-use policy, and policy divergence between Scotland, the UK, and the EU all contributed to a challenging policy landscape. Lastly, there was a preference for landscape-scale policy and planning approaches to promote holistic land-use and management strategies, although there were mixed views on the effectiveness of specific policies like the National Parks (Scotland) Act 2000.

The policy recommendations that arise from this research are:

- Agricultural support schemes and other financial incentives (e.g. grants) are key drivers of land use decision making. The Agriculture and Rural Communities (Scotland) Bill[33] should set out a clear overarching framework and mechanisms for support schemes and financial incentives. These should detail what land users and managers are entitled to and how to get it. By providing a clear baseline framework, subsequent focussed policies can then be “bolted on” promoting clarity and coherence in the future policy landscape.

[32] The Good Agricultural and Environmental Conditions (GAECs) which all factors viewed as having a neutral influence on land-use decision-making.
[33] The Bill became an Act on 30 July 2024.

- Continued support of advisory and knowledge exchange services for landowners and land managers is important. Investing in resources that offer guidance on sustainable land-use practices can help improve outcomes and address the complexity of balancing different land-use aims. Advisory services should also provide clarity and support on land-use policy and navigating subsidy and payment mechanisms.
- In the context of the Scottish Government's commitment to designating at least one new National Park by 2026, there was a low degree of positive influence attributed to the National Parks (Scotland) Act 2000. However, this research found widespread support for landscape-scale approaches to land use and land management. Regional Land-use Partnerships could serve as an effective model for implementing democratically informed landscape-scale land use. This model could be supplemented by targeted regulations and environmental protections as required. A new National Park could align with such a bottom-up meets top-down approach to landscape scale management.

6 Appendices

6.1 Appendix 1

List of land-use policies presented to participants for sorting.

Categories	Statement Reference	Land-use Policy
Planning	A	National Planning Framework 4
	B	Housing to 2040
	C	The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 Schedule 1 and Schedule 2
	D	National Parks (Scotland) Act 2000
Agriculture	E	Agriculture and Rural Communities (Scotland) Bill
	F	Sustainable and Regenerative Farming - next steps: statement
	G	Sustainable Use of Pesticides Directive 2009/128/EC
	H	Agri-Environment Climate Scheme
	I	Good Agricultural and Environmental Conditions (GAECs)
	J	Less Favoured Area Support Scheme
Climate Change	K	Climate Change (Emissions Reduction Targets) (Scotland) Act 2019
	L	Climate Change (Scotland) Act 2009
	M	Just Transition – A Fairer, Greener Scotland: Scottish Government Response
Food	N	Good Food Nation (Scotland) Act 2022
Forestry	O	Forestry and Land Management (Scotland) Act 2018
	P	The Scottish Government's Policy on Control of Woodland Removal
	Q	The Scottish Government's Rationale for Woodland Expansion
Natural Capital	R	Interim Principles for Responsible Investment in Natural Capital
Environment	S	Management of Wild Deer in Scotland: Deer Working Group report
	T	Wildlife and Natural Environment (Scotland) Act 2011
	U	Scottish Soil Framework
	V	Nitrates Directive: The Action Programme for Nitrate Vulnerable Zones (Scotland) Regulations 2008
Water	X	The Water Environment (Controlled Activities) (Scotland) Regulations 2011
	Y	River Basin Management Plan 2021-2027
	Z	Flood Risk Management (Scotland) Act 2009
Energy	AA	Peatland and energy: Draft policy statement

Categories	Statement Reference	Land-use Policy
	BB	Scottish Energy Strategy: The future of energy in Scotland
Biodiversity/ Conservation	CC	Nature Conservation (Scotland) Act 2004
	DD	The Conservation of Salmon (Scotland) Regulations 2016
	EE	Scottish Biodiversity Strategy to 2045
	FF	Scottish Plant Health Strategy
Land Reform	GG	Crofting Reform (Scotland) Act 2010
	HH	Land Reform (Scotland) Bill
	II	Land Rights and Responsibility Statement
	JJ	Land-use Strategy 2021-2026
Economic Development	KK	Scotland's National Strategy for Economic Transformation
	LL	Scottish Rural Development Programme (SRDP)
	MM	National Plan for Scotland's Islands
	NN	Tourism in Scotland: the economic contribution of the sector
	OO	Towards a Robust, Resilient Wellbeing Economy for Scotland: report of the Advisory Group on Economic Recovery

6.2 Appendix 2

List of statements and factor scores.

Colour code: distinguishing statements are highlighted in yellow, consensus statements highlighted in green.

Categories	Statement Reference	Land-use Policy	Factor Group				
			F1	F2	F3	F4	F5
Planning	A	National Planning Framework 4	1	3	-1	2	-1
	B	Housing to 2040	-4	3	-1	-2	3
	C	The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 Schedule 1 and Schedule 2	-1	0	-2	0	-1
	D	National Parks (Scotland) Act 2000	2	-1	-2	1	-3
Agriculture	E	Agriculture and Rural Communities (Scotland) Bill	0	4	4	0	-4
	F	Sustainable and Regenerative Farming - next steps: statement	2	1	1	-1	2
	G	Sustainable Use of Pesticides Directive 2009/128/EC	1	-3	-2	-4	-1
	H	Agri-Environment Climate Scheme	4	1	3	3	-3
	I	Good Agricultural and Environmental Conditions (GAECs)	1	-1	0	1	0
	J	Less Favoured Area Support Scheme	-3	0	2	-3	4
Climate Change	K	Climate Change (Emissions Reduction Targets) (Scotland) Act 2019	3	1	-3	3	-2
	L	Climate Change (Scotland) Act 2009	2	2	-1	1	-2
	M	Just Transition – A Fairer, Greener Scotland: Scottish Government Response	-1	2	2	-4	2
Food	N	Good Food Nation (Scotland) Act 2022	0	2	3	1	2
Forestry	O	Forestry and Land Management (Scotland) Act 2018	0	0	-2	1	2
	P	The Scottish Government's Policy on Control of Woodland Removal	-2	-1	-1	0	1
	Q	The Scottish Government's Rationale for Woodland Expansion	-2	-2	-3	4	1
Natural Capital	R	Interim Principles for Responsible Investment in Natural Capital	0	0	1	-1	-2
Environment	S	Management of Wild Deer in Scotland: Deer Working Group report	2	0	1	-2	3
	T	Wildlife and Natural Environment (Scotland) Act 2011	4	0	1	0	-3
	U	Scottish Soil Framework	0	-2	2	1	-1

Categories	Statement Reference	Land-use Policy	Factor Group				
			F1	F2	F3	F4	F5
	V	Nitrates Directive: The Action Programme for Nitrate Vulnerable Zones (Scotland) Regulations 2008	3	-4	-4	-2	-1
Water	X	The Water Environment (Controlled Activities) (Scotland) Regulations 2011	1	-1	-3	-3	0
	Y	River Basin Management Plan 2021-2027	1	-2	1	-3	0
	Z	Flood Risk Management (Scotland) Act 2009	0	-2	0	-1	0
Energy	AA	Peatland and energy: Draft policy statement	-1	-1	-1	2	-2
	BB	Scottish Energy Strategy: The future of energy in Scotland	-3	0	2	3	-2
Biodiversity/ Conservation	CC	Nature Conservation (Scotland) Act 2004	2	-3	0	0	1
	DD	The Conservation of Salmon (Scotland) Regulations 2016	0	-3	0	-2	-1
	EE	Scottish Biodiversity Strategy to 2045	3	1	0	0	1
	FF	Scottish Plant Health Strategy	-1	-4	4	2	1
Land Reform	GG	Crofting Reform (Scotland) Act 2010	-1	2	0	-1	-4
	HH	Land Reform (Scotland) Bill	-1	4	-4	-2	3
	II	Land Rights and Responsibility Statement	0	2	-2	-2	0
	JJ	Land-use Strategy 2021-2026	-1	1	0	1	1
Economic Development	KK	Scotland's National Strategy for Economic Transformation	-4	3	1	0	0
	LL	Scottish Rural Development Programme (SRDP)	1	1	3	4	2
	MM	National Plan for Scotland's Islands	-2	0	2	-1	4
	NN	Tourism in Scotland: the economic contribution of the sector	-3	-2	1	0	0
	OO	Towards a Robust, Resilient Wellbeing Economy for Scotland: report of the Advisory Group on Economic Recovery	-2	-1	-1	2	0

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