

Focus article

The stalled transition: Policy, practice, and industry alignment in Scotland's move toward peat-free horticulture

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Abstract

Scotland's move towards peat-free horticulture exposes a persistent gap between recognised policy intent and practical delivery. Drawing on qualitative evidence from sector engagement in Scotland (two workshops, follow-up interviews and site visits conducted from late 2024 to mid-2025), this article synthesises how evidence from the horticultural supply chain has been translated, or not translated, into policy action. Participants report broad support for eliminating peat alongside recurring constraints: higher costs of alternative media, uneven market demand, variable inputs and quality, crop-specific technical risks, gaps in accessible guidance and knowledge exchange, and uncertainty created by unclear regulatory timelines and limited incentives. Frustration is described both among early movers and among those waiting for clearer direction, reinforcing perceived inequity. Using concepts from policy learning, implementation research and sustainability transitions, the article argues that delay is explained less by a lack of technical options than by institutional inertia and multi-level governance misalignment across Scotland, the UK and wider regulatory frameworks.

Keywords: peat-free horticulture; Scotland; policy implementation; policy learning; sustainability transitions.

The policy problem

Peat has long been a key component for growing medium in horticulture (Robertson, 1962), but its continued use is at odds with climate and conservation policies and goals of the Scottish Government. Peatland degradation through harvesting for the supply chain contributes to carbon emissions and biodiversity loss, prompting calls to phase out

horticultural peat to meet climate targets (Alexander et al., 2008; Gruda et al., 2024; Koseoglu & Roberts, 2025). In Scotland, approximately 1000 ha is currently harvested for the horticultural supply chain (Scottish Government, 2023), and in 2022, the UK imported 560,000 cubic metres of peat (no data available for the proportion in Scotland), primarily from the Republic of Ireland and the rest of Europe, accounting for 60 per cent of all peat used in UK horticultural (Litterick et al., 2020; UK Government, 2023).

Scottish Government strategy documents and climate plans have voiced support for phasing out peat, and a public consultation, *Ending the Sale of Peat in Scotland* (Scottish Government, 2023), drew stakeholder views on potential bans. However, progress has been halting in Scotland's horticultural industry (Koseoglu et al., 2021), reflecting an implementation gap between policy intent and outcome (Rosli & Rossi, 2014; Nilsen, 2015). It should be noted that this progress has not been hindered by a lack of knowledge on alternatives to peat-based growing media (Gruda, 2019; Litterick et al., 2020; Prasad et al., 2023; Koseoglu & Roberts, 2025; Litterick et al., 2025; Macdonald & Everett, 2026).

This study focuses on the critical interface between industry stakeholders and policy mechanisms in Scotland's peat-free transition. Through a series of stakeholder workshops and interviews (Macdonald & Everett, 2026) to identify barriers and co-develop solutions for eliminating peat in horticulture, industry participants, including growers, growing media producers, retailers, and industry experts, voiced strong support for moving away from peat, yet also highlighted numerous practical and economic hurdles. They put forward a range of recommendations for government and regulators to ease the transition. Many of these recommendations have not yet been reflected in policy, even as UK Government and devolved administrations debate peat ban timelines, originally set to be banned in 2024 (UK Government, 2022). This disconnect raises important questions about policy learning and responsiveness:

1. Why, despite clear stakeholder consensus, have policies been slow to adjust?
2. What prevents the Scottish Government from aligning regulations and support with industry needs?

This paper also considers the role of policy learning, to understand whether government has truly absorbed lessons from past failures and the extensive knowledge gained from multiple stakeholder engagement in Scotland (Scottish Government, 2023; Koseoglu & Roberts, 2025; Macdonald & Everett, 2026) or whether only superficial policy decisions could be made without addressing the needs of the industry. The application of policy learning theory seeks to examine why strong stakeholder consensus and extensive evidence (Scott et al., 2019), in the context of peat-free horticulture, has not translated into decisive policy action in Scotland. Policy learning theory focuses on how governments absorb, interpret, and apply knowledge generated through consultation, evidence gathering, and previous policy experience (Zaki, 2024) and provides a useful framework for understanding the inertia of policy makers in Scotland to the peat-free transition in horticulture. It is particularly relevant to sustainability transitions, where implementation often depends not only on technical solutions, but also on whether institutions are capable of adapting policy frameworks in response to emerging evidence and stakeholder needs (Tomai et al., 2024).

In the case of peat-free horticulture, the issue is not a lack of industry knowledge or willingness to change, but the limited translation of this knowledge into coordinated and responsive policy measures. By applying policy learning theory, the paper analyses how institutional fragmentation, governance misalignment, and risk-averse policymaking contribute to policy inertia despite broad agreement on the direction of change. By situating Scotland's peat policy inertia in these theoretical contexts, the paper aims to

discuss the complexities behind the limited translation of industry needs into policy action.

Evidence base

This analysis is based on the ‘Transition to Peat Free Horticulture’ report (Macdonald & Everett, 2026), which adopted a qualitative, case-study approach focused on Scotland’s peat-free horticulture initiative. The data was obtained from a stakeholder engagement exercise carried out between late 2024 and mid-2025 (Macdonald & Everett, 2026) using a semi structured interviews and structured facilitation workshops process. This approach combed breakout discussions on technical challenges of peat-free media (crop-specific issues and research needs), economic barriers (costs and supply chain constraints), knowledge and training gaps, and policy and regulatory alignment. Facilitators took detailed notes and a short pre-workshop survey gathered baseline information on current peat use and main concerns. In addition to the workshops, the project conducted semi-structured interviews with stakeholders selected to ensure representation of different subsectors and viewpoints in early 2025. A total of 22 interviews were conducted across the horticultural supply chain (detailed in Macdonald & Everett, 2026). These interviews explored issues that emerged in the workshops, including challenges faced by niche sectors and the perspective of retail chains on peat-free product supply. The project also undertook site visits to two nurseries to observe peat-free trials in progress. All data were analysed using a thematic analytic approach. A full methodology is detailed in Macdonald & Everett (2026).

Barriers to a peat-free transition

Three key areas were identified by stakeholders that required discussion and integration into the framework for the transition to peat-free horticultural supply chains in Scotland. This included i) the barriers to adoption that face the supply chain in moving to peat-free horticulture; ii) Stakeholder proposals for bridging the gap between need and policy, and iii) the perceived challenges between stakeholder insights and policy response (Table 1).

In summary, the industry recognises a confluence of economic, technical, and institutional challenges that slow the peat-free transition. These barriers are interlinked; higher costs and supply issues could be mitigated by government support or market signals; technical and knowledge gaps could be closed by coordinated research and advisory services; unclear policy direction could be resolved by decisive regulation. Stakeholders recognised these linkages, which informed their proposals for action.

Table 1: Barriers identified in stakeholder engagement

Barrier	Evidence from stakeholder engagement
Economic and market barriers	Nearly all growers stressed the higher cost of peat-free growing media as a primary barrier. Participants reported that current peat alternatives can increase growing media costs by 15-45 per cent per cubic metre, depending on the formulation. This significant price premium squeezes margins in an industry with tight profitability. Growers face a dilemma: either absorb the extra cost or pass it down the value chain (which they fear could make their products less competitive). One nursery manager noted that they had ‘tried to pass [peat-free costs] on to customers’ with little success, since buyers (wholesalers, retailers) were not yet willing to pay more for peat-free plants. Compounding this is weak market demand for peat-free products:

	stakeholders observed that end consumers rarely demand peat-free grown plants, removing market pressure. As one participant summarised, 'farmers won't start asking for peat-free grown [plants] until they're forced to by legislation' such as without regulatory signals, many customers stick to the status quo. In the current market, early-adopting growers risk being at a cost disadvantage, a classic case of an environmental initiative facing a market failure (the environmental benefits of peat-free practices are not yet valued in transactions).
Supply chain and material constraints	Stakeholders highlighted that Scotland does not lack access to peat-free materials. Stakeholder findings included that a peat-free transition is achievable, and that the principal barriers concern system coordination, processing capacity, standards, supply chains and technical adaptation rather than a fundamental shortage of alternatives. While stakeholders reported concerns about the reliability, cost and consistency of materials such as coir, wood fibre and composted products, these accounts should be treated as evidence of perceived risk and practical constraint, not as objective proof of national supply shortage. The transition depends on improving infrastructure, quality assurance and commercial confidence, while recognising that many peat-free inputs are already sourced through wider UK and international supply chains.
Technical and knowledge barriers	Despite many trials showing peat-free media can work, stakeholders reported a 'confidence gap' in horticultural practice. Certain crops and cultivation stages remain challenging without peat. For example, producers of ericaceous plants (acid-loving species like rhododendrons) and some woody nursery stock expressed doubts about long-term performance in peat-free substrates – issues with nutrient availability and water retention in alternatives were cited from experience. A seed potato mini-tuber producer noted the difficulty of finding a substrate with the right 'stickiness' and moisture-holding capacity to replace peat in their propagation systems. These technical uncertainties are exacerbated by knowledge gaps. Many growers rely on trial-and-error or anecdotal guidance in adopting new media. Stakeholders pointed out a lack of accessible agronomic guidance specific to peat-free cultivation for different crops. 'We're not sure how to manage irrigation and feeding in these new mixes,' one participant admitted, highlighting the need for tailored cultivation protocols. Moreover, limited sharing of trial results was a problem: growers have individually tested alternatives, but competitive pressures mean results are not widely disseminated. 'Many growers are running independent tests but withholding findings due to commercial sensitivity,' the report noted. This fragmented knowledge base means each business faces the transition in semi-isolation, reinventing the wheel and potentially repeating mistakes.
Quality and standards issues	A cross-cutting concern was the inconsistency of peat-free media quality. Growers recounted receiving batches of alternative media with variable properties, for instance, green compost that was not fully matured (still 'hot' and biologically active), or wood fibres with varying particle sizes leading to unpredictable drainage. Without standards or quality guarantees, some growers lost trust in peat-free products after bad experiences. Retail-grade peat-free composts came in for particular criticism: stakeholders described them as often being of lower quality (due to cost-cutting and contaminated green waste inputs), which not only hampers those who try them but also 'shapes public perceptions' negatively when hobby gardeners encounter poor results. The absence of industry-wide standards or an accreditation system for growing media means variability persists. As a result, many professional growers avoid using retail peat-free products altogether, and even among commercial suppliers, there is reluctance to try unproven brands. Biosecurity

	was another aspect: some participants worried about the introduction of pests or pathogens through alternative materials (for example, unknown microbial content in imported coir, or tree bark harbouring fungi). They noted that while Scotland has protocols for screening peat (for example, testing for certain pests in seed potato mix), new materials are not yet covered by robust guidelines. This regulatory lag in quality control undermines growers' confidence in switching substrates.
Policy and regulatory barriers	Significantly, stakeholders felt that the policy environment itself was a barrier in several ways. Foremost was the lack of a clear regulatory timeline or mandate for peat phase-out. At the time of engagement, Scotland had not set a firm date to ban peat sales or use in horticulture, instead indicating it was under consideration. Many growers and industry representatives actually wanted a clearer mandate: they argued that an announced phase-out date would create certainty and a 'level playing field' forcing the whole market to move together. As noted earlier, some even said they were waiting for legislation to 'force' the change, because voluntary change put early movers at risk. The ambiguity around if and when a Scottish peat ban would occur left businesses in limbo and reluctant to invest heavily in new processes or equipment when the requirement to do so remained uncertain. One participant bluntly stated that without a deadline, they felt 'it's difficult to justify major capital spending on trials or new infrastructure'. In addition, stakeholders observed misalignment between Scotland and the rest of the UK: the UK Government's moves to ban peat in England (for example, retail ban by 2024, proposed professional ban by 2026-2028) were noted, and some Scottish growers feared Scotland might lag behind or, conversely, be rushed to align without having supports in place. This multi-level inconsistency fed uncertainty (we return to this in Discussion). Finally, stakeholders highlighted a lack of policy incentives to help overcome the cost barrier, there were no dedicated subsidies, grants, or tax breaks to offset the higher cost of peat-free media or the R&D expenses of trials. Nor were there penalties for continued peat use yet. In effect, aside from general encouragement, policy had not yet changed the economic calculus, leaving the burden on individual firms.

Bridging the gap between need and policy

A key outcome of the engagement was a consistent set of recommendations from multiple stakeholders about what measures would facilitate a successful transition. Notably, these proposals directly target the barriers above, suggesting pathways to translate needs into effective policy (Table 2).

The stakeholder recommendations form an integrated package including clear rules, economic incentives, knowledge support, quality assurance, and market safeguards. In essence, they envision a proactive governance approach that aligns policy instruments to systematically remove the barriers identified. It is notable that stakeholders were not resisting change in which many are asking for more assertive policy intervention, not less. As one industry representative put it, *'Give us the direction and the tools, and we will get on with it.'* This sentiment underscores that the often-perceived dichotomy between regulation and industry interest does not hold here; the industry recognises that smart regulation and support would enable them to achieve sustainability goals that they cannot reach alone under current market conditions.

Table 2: Stakeholder proposals for bridging the gap between need and policy

Recommendation	Evidence from stakeholder engagement
Establish a clear phase-out timeline	Participants overwhelmingly called for the Scottish Government to set a firm end-date or schedule for phasing out peat in horticulture. They argued that a clear timeline (with interim targets) would send a strong market signal and give businesses certainty to plan investments. For instance, growers suggested a roadmap to 100 per cent peat-free by a certain year, developed in consultation with industry to be realistic yet ambitious. The absence of a deadline was seen as allowing procrastination, whereas a mandated target would 'motivate action along with on-the-ground support'. Importantly, stakeholders emphasised that the timeline must be accompanied by supportive measures (not a simple ban without help), but the act of declaring a date was viewed as a catalyst for the whole supply chain to align efforts.
Financial incentives and support	To address the cost barrier, stakeholders urged the introduction of financial support mechanisms. These could include capital grants or low-interest loans for growers to invest in new equipment (for example, handling systems suited to bulkier alternative media), funding to offset the higher operating costs during the transition, and possibly subsidy payments for those adopting peat-free practices (to reward climate-friendly behaviour). There was also discussion of tax incentives, for example, reducing VAT on peat-free compost or providing tax credits for R&D in alternative media. Several growers noted that current agricultural support schemes did not cover horticultural media changes, a gap that could be closed. Industry bodies like the Horticultural Trades Association (HTA) have likewise lobbied for a 'portfolio of financial interventions' to ease this transition. Stakeholders highlighted that even temporary subsidies during a phase-in period (for example, first 3-5 years of a ban) could significantly de-risk the shift for companies. Such measures would effectively redistribute some costs to the public purse in recognition of the environmental benefits and those who have already made that transition to peat-free (a justified move, they argued, given peat reduction contributes to climate goals).
Technical advice and knowledge exchange	The need for dedicated technical support was a recurrent theme. Stakeholders proposed that government or agencies fund agronomists and expert advisors to work with growers on peat-free cultivation challenges. For example, having a 'peat-free transition advisor' available to visit nurseries, help design trials, and troubleshoot issues (nutrient management, irrigation adjustments, and so on) would build capacity in the sector. Models cited included the hiring of specialist consultants or expanding the remit of existing agricultural advisory services to include horticulture media. Additionally, stakeholders valued peer learning opportunities. They suggested setting up formal networks or working groups where early adopters can share experiences with others, effectively creating communities of practice. Ideas ranged from annual peat-free horticulture conferences to field demonstration days at nurseries that have gone peat-free. The Scottish Government was seen as a key enabler for this, by funding and organising such knowledge exchange. The underlying belief is that much of the knowledge exists in pockets, but a concerted effort is required to disseminate it and train growers at scale, especially smaller operators who may lack R&D capacity.
Collaborative research and trials	To close the evidence gaps, stakeholders called for more coordinated research trials, ideally co-funded by government, industry, and research institutions. They noted that existing UK projects (like the Royal Horticultural Society's ongoing Peat-Free Fellowship trials with multiple nurseries) are

	valuable, and Scotland should actively join or replicate these initiatives. One concrete suggestion was to 'embed commercial-scale trials' across Scottish nurseries by partnering with the RHS/Defra fellowship program. This would ensure trials occur under Scotland's climatic conditions and with local crops of interest. Priority areas for trials were identified: difficult plant groups (ericaceous, carnivorous plants), propagation systems (seedlings, plug plants, mini-tubers), and long-cycle crops like mature trees that haven't been fully tested in peat-free media. Stakeholders offered that industry players are willing to host trials if some funding and expert help is provided, noting successful models where a <i>'larger grower runs a demo trial with peers invited to observe'</i> . The aim is to produce Scotland-specific data on yields, plant health, and economics in peat-free systems, data that policymakers have indicated is needed for decision-making. By investing in applied research now, government would signal commitment and also accelerate the learning curve, turning uncertainties into solvable problems.
Quality standards and regulation	Many participants argued for the development of standards or accreditation to ensure peat-free growing media quality. This would tackle the consistency issues by holding manufacturers to account. For example, standards could specify acceptable ranges for pH, nutrient content, maturity of compost, absence of contaminants, and so on, in peat-free media. Hand in hand with this, stakeholders wanted better enforcement of existing waste and composting regulations – citing that lax enforcement on green waste quality (at council composting sites) results in plastic or weed contamination in compost. They believed stronger regulation could 'clean up' the input stream for compost, improving the end product for horticulture. Some were cautious about over-regulation, suggesting that a collaborative approach with manufacturers (perhaps a voluntary certification scheme) might work if done quickly. Nonetheless, there was general agreement that without oversight and transparency, growers would remain sceptical of peat-free products. The call for standards is essentially a call for government to play a convening role to set the rules of the game so that all suppliers compete on reliability, not just price.
Market coordination and trade measures	A less dominant but still notable theme was concern about unfair competition if only parts of the market eliminate peat. Stakeholders noted that if, say, Scotland bans peat in its growers but peat-containing plants or products can still be imported from elsewhere (England or abroad), that could undercut local producers who bear transition costs. To prevent this, some suggested exploring trade or market measures like a requirement that plants sold in Scotland (or UK) must be grown in peat-free media by the phase-out date, or at least clear labelling of peat content so consumers can choose. Such measures would ideally be coordinated UK-wide or even internationally. While complex (and potentially touching trade law), the underlying need identified was to ensure a level playing field. Scotland building its policy in isolation was seen as problematic if others do not follow, reinforcing the call for coordination with the UK Government and perhaps alignment with EU partners. This again highlights stakeholder desire for policy coherence – they want to avoid a scenario where Scottish rules inadvertently disadvantage Scottish businesses without environmental gain (e.g. peat use just shifts location). Thus, they urged Scottish authorities to work with Westminster and even push for broader agreements. It should be noted as of February 2026, this was achieved at the EFRA Inter Ministerial Group on 5 February agreed on joint legislation; Welsh Government, February 19 th 2026).

Why policy has lagged

Given the above findings, there is a clear mismatch between stakeholder insights and the policy status quo as of 2026. There is a consensus that policy movement has been limited and slow, revealing a friction or lag in the uptake of insights previously provided.

The stakeholder engagement process provided a roadmap of solutions and whilst one alignment exists in principle, for example, the Scottish Government agrees with stakeholders on the end goal (peat elimination) and has acknowledged many of the same barriers in rhetoric. Where it falls short is in the urgency and decisiveness of measures. Industry representatives, seeing the ground realities, favoured an assertive package of reforms; officials have taken a more cautious, incremental stance. This divergence has led to a sense of policy inertia, despite evidence and consensus on what needs to be done including tangible changes on funding, regulation, and timelines remain pending. The following discussion seeks to assess why this inertia persists, exploring the structural and institutional reasons behind the gap between 'knowing and doing' in this sustainability transition.

Structural and institutional barriers to policy translation

Effective transitions require governments to learn from experience and new evidence, updating their strategies accordingly (Hoeherman et al., 2025). In this context, genuine policy learning would mean the Scottish Government and regulators actively incorporating stakeholder knowledge and past policy outcomes (for example, the failures of voluntary peat reduction targets) into a fundamentally improved approach. The long reliance on voluntary measures by UK authorities, despite poor results, hints at a learning deficit, or an unwillingness to make decisions until last minute. Policy learning theory also highlights that who is involved in the learning process matters and that inclusive engagement can improve learning, but only if institutions are receptive and capable of translating insights into action (Zaki et al., 2024). Policy implementation can often fail due to the multiple areas of decision making involved and the multi actors involved (Enserink et al., 2022), as demonstrated in Scotland's horticultural supply chain (Koseoglu & Roberts, 2025). In the case of peat-free horticultural policy where significant commitment to phase out peat has been made (Scottish Government, 2023), the process involves multiple agencies (environment, agriculture, industry, planning), each with its own priorities and potential requirements (Kern et al., 2019). Unclear responsibility or conflicting agendas between agencies (for example, climate policymakers versus agricultural support services) can stall progress and lead to policy inertia (Stål, 2015; Pearson, 2025). This is often rooted in such institutional frictions and the absence of strong accountability for implementation (Maedgen & Wlezien, 2024).

However, this research demonstrated that there is a strong knowledge base and consensus from across the horticultural industry and supply chain stakeholders. The failure to operationalise this knowledge is not from internal conflicting agendas from the horticultural sector, but a failure at institutional level to not just engage, but to use this knowledge to shape the strategy that will ultimately lead to the policy for peat-free horticulture. In short, the horticultural industry in Scotland knows what needs to be done and what resources are needed to make the transition, but structural and institutional barriers fail to translate and integrate this with decisions making.

Table 3: Perceived challenges between stakeholder insights and policy response

Perceived challenges	Evidence from stakeholder engagement
Delayed timeline and ongoing uncertainty	Despite near-unanimous calls for a clear peat ban timeline, the Scottish Government has, by late 2025, not set a definitive date for ending peat sales. In public communications, ministers have maintained that they are considering the evidence and watching developments elsewhere. This cautious approach contrasts with stakeholder urgency for a decision. The friction is evident: industry says clarity is needed now, government says 'we need to get it right and align with others.' The result is that businesses remain uncertain. By contrast, in England the decision was made to ban retail peat by 2024 and set an ambition for professional peat use to end by 2030, later bringing it forward to 2026, moves that, while not without controversy, at least signalled direction but never delivered). Scotland's hesitance appears partly due to wanting to see how those plans unfold and partly due to legal complexities (for example, UK Internal Market Act 2020). Nonetheless, the gap between stakeholder expectation and government action on this fundamental point is wide.
Limited financial or incentive programs	At the time of writing, there were no dedicated financial incentive schemes in Scotland to support peat-free transition in horticulture. Stakeholders' appeals for grants or subsidies have thus far resulted in little concrete support. The Scottish Government has various agricultural modernisation grants, but none targeted specifically at peat replacement costs. This is a point of contention: from the industry's view, modest public investment now (in trials, equipment, and so on.) could yield significant environmental returns and prevent future compliance costs, whereas the government has not earmarked funds, citing budget constraints or the need for further evidence. The absence of financial measures means the cost burden remains squarely on growers and media producers, effectively a stalemate where everyone agrees support 'would be nice,' but no one has mobilised it.
Regulatory standards – still missing	No new standards or regulations on growing media quality have been introduced so far. The issue of compost and media quality remains addressed only by existing general regulations (which stakeholders deem inadequate). There's been discussion about developing specifications for peat-free media, possibly through the British Standards Institution or an industry code of practice, but it is in early stages and not driven strongly by government. This is a point where stakeholder advice has not yet been acted on, and as a result, complaints about media inconsistency continue. The friction here may be due to government seeing standards as something industry should lead on, whereas industry looks to government for convening power, a classic coordination problem.
Broader regulatory alignment	Stakeholders' concern about uneven playing fields (imports, and so on) touches on policy areas beyond Scotland's sole control (UK trade, EU imports). The Scottish Government's response, as recorded in an official Q&A, has been to engage in 'sustained and determined' talks with the UK Government and other devolved administrations to ensure a coherent approach. This suggests policymakers are aware of the misalignment risk. However, as of 2025, no formal arrangement has resolved the UK Internal Market issue for peat, nor has there been a UK-wide agreed timetable (England moved ahead unilaterally). This means the governance misalignment remains; Scotland is effectively holding back on its own ban until it sees clarity on UK legislation, to avoid legal or market complications.

	The stakeholders who urged aggressive action find this frustrating: from their perspective, waiting for perfect alignment results in inaction. Yet from the government perspective, acting alone could be legally problematic or ineffective if loopholes allow peat in via other markets. This tension epitomises the friction between ideal policy (as stakeholders outline) and real-world policy (constrained by multi-level politics).
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Conclusion and policy implications

Scotland's move toward peat-free horticulture offers a key case of the hurdles in turning sustainability ambitions into reality. Through an in-depth examination of stakeholder engagement (Macdonald & Everett, 2026) and the examination of broader policy (non)responses, this paper has highlighted a pronounced implementation gap, in which the horticultural industry, by and large, is willing to change and has articulated clearly what it needs to do so, yet policy mechanisms have not yet delivered those needs. Barriers identified – from cost and supply constraints to knowledge gaps and regulatory ambiguities – are not merely technical issues but symptoms of deeper structural and institutional problems. These include an inertia in governance systems accustomed to incremental change, misalignments between different layers and arenas of policy (Scottish vs UK vs EU, environmental vs economic policy), and a risk-averse political culture when it comes to intervening in markets.

This critical analysis, informed by industry engagement, suggests that policy inertia in this case is rooted in both institutional paralysis and governance misalignment. The institutional paralysis is evident in how slowly the government apparatus has moved despite mounting evidence and stakeholder pressure, a typical policy response when new ideas confront old routines (Kern et al., 2019). Governance misalignment is seen in the need to coordinate multiple authorities and policy domains, a coordination that has lagged behind, leaving Scotland in a holding pattern to avoid clashing rules. These findings resonate with wider observations in sustainability transitions that achieving change requires not just innovating on the ground but also innovating in governance. Without adaptive governance that can integrate learning and align actors, even the best technical solutions may stall.

Policy implications

From a practical standpoint, the evidence implies a few crucial steps:

1) Set the course with clear policy signals

The time for hedging on a peat phase-out date should end. A clear, Scotland-specific timeline with defined dates (even if coordinated with the rest of the UK, it should be announced proactively) would eliminate the current uncertainty that hampers investments. It would also allow aligning support measures to milestones (for example, X% reduction by 2027 with corresponding subsidies, full phase-out by 2030). The stakeholder engagements findings show industry expects and can handle a deadline if given one. Policy learning here means trusting the stakeholder feedback that clarity will breed action, whereas ambiguity breeds delay.

2) Align governance and overcome fragmentation

The Scottish Government should establish a dedicated Peat-Free Transition group, bringing together the relevant departments (environment, agriculture, enterprise, waste) and engaging UK counterparts. This body's mandate would be to implement the

transition plan holistically, cutting through silos. It should also engage with the UK Government to resolve Internal Market concerns, for example, negotiating a peat products exclusion from UKIMA, which is possible if agreed politically. Engaging the other devolved nations might help create a unified front to push Westminster on this technical but crucial point. In the EU context, Scotland (via the UK or its own networks) can support calls for EU-level restrictions, which ultimately would benefit all by preventing leakage. These governance actions are about aligning rules and responsibilities so that stakeholder-driven solutions are not thwarted by jurisdictional issues.

3) Institutionalise support and standards

On the domestic front, Scotland can and should roll out the support package stakeholders asked for, rather than more pilot projects. This means real money on the table (even modest funds could have high leverage in this small sector) for grants and advice. It also means working with industry to set quality benchmarks for peat-free media. For instance, a government-endorsed certification for 'Approved Peat-Free Growing Media' could be launched, developed by scientists and industry reps, giving growers confidence that certified products meet certain criteria. This directly addresses the quality and trust issues. Such measures show government acting as a facilitator and regulator in tandem – a mix of carrot and stick that transition theory suggests is needed to destabilise old regimes and scale niches (Kern et al., 2019). Put simply, government must move from observer to enabler and enforcer.

4) Embrace reflexivity and continuous learning

The process is not one-off, as the transition unfolds, new challenges will emerge. Thus, the governance approach should be one of reflexive policy-making: regularly revisiting and adjusting strategies based on feedback from the ground (the exact opposite of a 'set and forget' regulation). This could involve annual reviews of peat reduction progress with stakeholder panels, adapting support programs if certain barriers persist (for example, if a particular alternative proves problematic, directing R&D there). By institutionalizing a learning loop (e.g. a formal advisory council on peat-free transition that remains in place through 2030), Scotland can avoid stagnation and show adaptive capacity. In essence, stakeholders should continue to have a voice in implementation, not just in initial consultation, ensuring the policy stays aligned with real-world dynamics.

Conclusions

Effective transitions require governments to learn from experience and new evidence, updating their strategies accordingly (Hocherman et al., 2025). In this context, genuine policy learning would mean the Scottish Government and regulators actively incorporating stakeholder knowledge and past policy outcomes (for example, the failures of voluntary peat reduction targets) into a fundamentally improved approach. The long reliance on voluntary measures by UK authorities, despite poor results, hints at a learning deficit, or an unwillingness to make decisions until last minute. Policy learning theory also highlights that who is involved in the learning process matters and that inclusive engagement can improve learning, but only if institutions are receptive and capable of translating insights into action (Zaki et al., 2024). Policy implementation can often fail due to the multiple areas of decision making involved and the multi actors involved (Roelich & Gieseckam, 2019; Enserink et al., 2022), as demonstrated in Scotland's horticultural supply chain (Koseoglu & Roberts, 2025). In the case of peat-free horticultural policy where significant commitment to phase out peat has been made (Scottish Government, 2023), the process involves multiple agencies (environment, agriculture, industry, planning, business and trade), each with its own priorities and

potential requirements (Kern et al., 2019). Unclear responsibility or conflicting agendas between agencies (for example, climate policymakers versus agricultural support services) can stall progress and lead to policy inertia (Stål, 2015; Pearson, 2025). This is often rooted in such institutional frictions and the absence of strong accountability for implementation (Maedgen & Wlezien, 2024).

However, this research demonstrated that there is a strong knowledge base and consensus from across the horticultural industry and supply chain stakeholders. The failure to operationalise this knowledge is not from internal conflicting agendas from the horticultural sector, but a failure at institutional level to not just engage, but to use this knowledge to shape the strategy that will ultimately lead to the policy for peat-free horticulture. In short, the horticultural industry in Scotland knows what needs to be done and what resources are needed to make the transition, but structural and institutional barriers fail to translate and integrate this with decisions making.

In conclusion, the case of peat-free horticulture in Scotland demonstrates that bridging the gap between knowing and doing in sustainability transitions requires critical self-examination of governance. It is not enough to have the science, technology, or even industry willingness; policy systems themselves must evolve. They must learn faster, coordinate better, and be willing to deploy new tools when old ones fail. The Scottish Government, along with UK partners, has an opportunity to turn what has been a slow, friction-laden process into a success story of transition, but only if it addresses the structural barriers identified. The environmental stakes (climate mitigation, peatland protection) and the timeline (net-zero commitments looming) make this not just an issue of horticultural practice, but of credibility in climate action. As our analysis shows, the answers are at hand, voiced by those on the frontlines. A more ambitious, coherent policy effort, grounded in theoretical insights and empirical evidence, can ensure that stakeholder engagement was not in vain but rather the foundation of a robust transition to peat-free horticulture in Scotland.

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Biographical note

Dr Rosie Gearey is an environmental social scientist committed to advancing methodologically innovative research with real-world policy relevance, particularly in the context of sustainability and nature-based solutions.

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References

- Alexander, P. D., Bragg, N. C., Meade, R., Padelopoulos, G., & Watts, O. (2008). Peat in horticulture and conservation: The UK response to a changing world. *Mires and Peat*, 3, Article 8.
- Enserink, B., Thissen, W., Ruijgh, T., Kwakkel, J., Koppenjan, J., Kortmann, R., Hermans, L., van Daalen, E., Bots, P. & Slinger, J. (2022). *Policy analysis of multi-actor systems*. TU Delft OPEN Publishing.
- Gruda, N. S. (2019). Increasing sustainability of growing media constituents and stand-alone substrates in soilless culture systems. *Agronomy*, 9(6), 298. <https://doi.org/10.3390/agronomy9060298>
- Gruda, N. S., Hirschler, O., & Stuart, J. (2024). Peat reduction in horticulture: An overview of Europe. *Acta Horticulturae*, 1391, 545–560. <https://doi.org/10.17660/ActaHortic.2024.1391.75>
- Hocherman, T., Trop, T. & Ghermandi, A. (2025). Time lags in environmental governance: A critical review. *Ambio*, 54(12), 2042-2059.
- Kern, F., Rogge, K. S., & Howlett, M. (2019). Policy mixes for sustainability transitions: New approaches and insights through bridging innovation and policy studies. *Research Policy*, 48(10), 103832.
- Koseoglu, N., & Roberts, M. (2025). Supply chain dynamics of moving from peat-based to peat-free horticulture. *Sustainability*, 17(13), 6159. <https://doi.org/10.3390/su17136159>
- Koseoglu, N., Roberts, M. & Bacigalupo, A. (2021). *Understanding the barriers and opportunities for eliminating peat from the growing media mixes from the perspective of different supply side stakeholders*. <https://www.hutton.ac.uk/sites/default/files/files/publications/Understanding-Barriers-Opportunities-Peat-Growing-Media-Supply-Side.pdf>
- Litterick, A., Bell, J., Sellars, A., & Carfrae, J. (2020). Rapid evidence assessment of the alternatives to horticultural peat in Scotland. ClimateXChange. <https://www.climateexchange.org.uk/wp-content/uploads/2023/09/rapid-evidence-assessment-of-the-alternatives-to-horticultural-peat-in-scotland.pdf>
- Litterick, A. M., Holmes, S., Frederickson-Matika, D. E., & Green, S. (2025). How safe are peat-free growing media? An exploration of plant pathogen risks to the horticultural industry and recommendations for risk mitigation. *Plants, People, Planet*, 7(6), 1684–1699. <https://doi.org/10.1002/ppp3.70027>
- Macdonald, R., & Everett, R. (2026). Transition to peat-free horticulture in Scotland. ClimateXChange. <https://www.climateexchange.org.uk/publications/the-transition-to-peat-free-horticulture-in-scotland/>
- Maedgen, J., & Wlezien, C. (2024). Institutional friction and policy responsiveness: The puzzle of coalitional fragmentation and executive-legislative balance. *Political Research Quarterly*, 77(4), 1262-1278.
- Nilsen, P. (2015). *Making sense of implementation theories, models, and frameworks*. *Implementation Science* 10 (53-79).
- Pearson, M. (2025). Explaining climate change policy inertia: Policymaker perspectives on building energy efficiency in the United Kingdom. *Energy Research & Social Science*, 127, 104243.
- Prasad, R., Redmile-Gordon, M., Gush, M.B., & Griffiths, A. (2023). Characterisation of peat-free growing media to facilitate the transition to peat-free horticulture. *International Symposium on Growing Media, Compost Utilization and Substrate Analysis for Soilless Cultivation* 1389 (pp. 153-162).
- Robertson, R.A. (1962). Peat: its origin, properties and use in horticulture. *Scientific Horticulture*, 16, 42-51.

- Roelich, K., & Gieseckam, J. (2019). Decision making under uncertainty in climate change mitigation: introducing multiple actor motivations, agency and influence. *Climate policy*, 19(2), 175-188.
- Rosli, A., & Rossi, F. (2014). Explaining the gap between policy aspirations and implementation: The case of university knowledge transfer policy in the United Kingdom. *Industry and Higher Education*, 28(6), 475-488.
- Scott, T.A., Thomas, C.W. & Magallanes, J.M., (2019). Convening for consensus: Simulating stakeholder agreement in collaborative governance processes under different network conditions. *Journal of Public Administration Research and Theory*, 29(1), 32-49.
- Scottish Government. (2023). *Ending the sale of peat in Scotland: Consultation*. Scottish Government. <https://www.gov.scot/publications/ending-sale-peat-scotland-consultation/>
- Stål, H.I., (2015). Inertia and change related to sustainability–An institutional approach. *Journal of Cleaner Production*, 99, 354-365.
- Tomai, M., Ramani, S.V. & Papachristos, G. (2024). How can we design policy better? Frameworks and approaches for sustainability transitions. *Sustainability*, 16(2), 690.
- UK Internal Market Act (2020). <https://www.legislation.gov.uk/ukpga/2020/27/contents>
- UK Government. (2022). *Government response to the consultation on banning the sale of peat and peat-containing products in the amateur sector in England and Wales*. Department for Environment, Food and Rural Affairs. <https://consult.defra.gov.uk/soils-and-peatlands/endingtheretailsaleofpeatinhorticulture/>
- UK Government (2023). *Impact of a proposed ban of the sale of horticultural peat in England*. <https://www.gov.uk/government/publications/report-impact-of-a-proposed-ban-of-the-sale-of-horticultural-peat-in-england-on-the-effective-operation-of-the-uk-internal-market/impact-of-a-proposed-ban-of-the-sale-of-horticultural-peat-in-england>
- Welsh Government (February 2026). www.gov.wales/written-statement-inter-ministerial-group-environment-food-and-rural-affairs-meeting-5-february
- Welsh Government. (2026, February 19). *Written statement: Inter-Ministerial Group for Environment, Food and Rural Affairs meeting, 5 February 2026*. <https://www.gov.wales/written-statement-inter-ministerial-group-environment-food-and-rural-affairs-meeting-5-february>
- Zaki, B.L., Pattyn, V., & Wayenberg, E., (2024). Policymaking in an age of polycrises: Emerging perspectives. *Policy Design and Practice*, 7(4), 377-389.