

EFRA Select Committee's Inquiry on Soil Health

ClientEarth submission

Contents

About ClientEarth2

Introduction2

 A lack of focus on soil health in UK law and policy3

How can the Government measure progress towards its goal of making all soils sustainably managed by 2030? What are the challenges in gathering data to measure soil health and how can these barriers be overcome?4

 The Government’s reduction of commitments on soil4

 The need for a comprehensive soil strategy5

 A better approach to soil monitoring.....6

Do current regulations ensure that all landowners/land managers maintain and/or improve soil health? If not, how should they be improved?6

 A fragmented approach to regulating soils6

 Poor enforcement of existing regulations8

 Risk of losing important protections9

 The justification for soil specific legislation9

 Climate Change Act 2008 (and the UK’s Net Zero Strategy)9

 Environment Act 2021 targets10

 The National Emission Ceilings Regulations 201811

 What could UK soil legislation look like?11

Will the standards under Environmental Land Management schemes (ELMs) have sufficient ambition and flexibility to restore soils across different types of agricultural land? What are the threats and opportunities for soil health as ELMs are introduced?12

 Withdrawal of cross-compliance.....12

 Reliance on voluntary measures14

 Payment rates and low uptake15

 The importance of maintaining a regulatory baseline15

About ClientEarth

1. ClientEarth is an environmental law charity with offices in London, Brussels, Warsaw, Berlin, Madrid, Beijing, Luxembourg and Los Angeles. We use the law to fight climate change, tackle pollution, defend wildlife and protect people and the planet.
2. ClientEarth has extensive experience in domestic, international and EU environmental law. ClientEarth has recently been involved in several activities that seek to defend the rule of law, promote sound environmental governance and ensure the public's right to participate in government decision-making and to access the courts.
3. We welcome the opportunity to give written evidence to the Committee in relation to improving soil health in the UK.

Introduction

4. Soil health plays a vital role in supporting thriving ecosystems, improving air and water quality, reducing GHG emissions and fundamentally, preserving national food security. Nutritious and good quality food can only be produced if our agricultural systems are carefully designed to protect and promote healthy soil. Good soil health can reduce reliance on artificial fertilisers and chemical pesticides, reducing agricultural inputs with win-win benefits to the environment and public health. Taking decisive action on soil health will support the Government in boosting domestic food security and reducing costs for farmers and consumers, meanwhile contributing to the fulfilment of existing legal commitments.
5. The state of much of England's soils is in decline,¹ and a clear strategy is vital now if the Government is going to achieve its wider environmental and health objectives.
6. The benefits of healthy soil are multidimensional. **Soils play a fundamental role in climate mitigation**, which at present, is not reflected in UK climate policy. A report by the Royal Society estimated that soil carbon sequestration and afforestation farming have the potential to remove up to 11.4 GtCO₂ globally from the atmosphere per annum.² In the UK, around a quarter of agricultural emissions are soil-based emissions of nitrous oxide, the largest source of which is from peat soils.³ In its most recent report on net zero and land use, the Climate Change Committee (CCC) underscored that current policies are not delivering the necessary emissions reductions in agriculture, land use and forestry to meet the UK's climate targets.⁴ It recommended a number of actions to support net zero, including a swift transition to low-carbon farming, introducing regulation to ensure that peatland is not left bare and banning peat extraction and rotational crop burning.⁵
7. Soils are not only important for climate mitigation, but also **for building long-term resilience to the impacts of climate change**. Rising temperatures and diverse weather patterns will bring increased pressures on food security and availability.⁶ Healthy soils are vital to reduce the risk of floods and provide a more resilient food system. Reducing soil compaction can help to reduce run-off, **decreasing the risk of harmful flooding and nutrient losses to nearby watercourses**. This, in turn, **reduces reliance on artificial fertilisers** which have a high-cost burden for food producers.

¹ [The state of the environment soil \(publishing.service.gov.uk\)](https://publishing.service.gov.uk), see pages 5 & 6

² [Report: Greenhouse Gas Removal \(royalsociety.org\)](https://royalsocietypublishing.org/journal/rsos/1000000), page 33

³ Based on data by the CCC for 2018. Peat soils are classified by soils with other 50% organic matter; [Sector-summary-Agriculture-land-use-land-use-change-forestry.pdf \(theccc.org.uk\)](https://www.theccc.org.uk/wp-content/uploads/2020/01/Land-use-Policies-for-a-Net-Zero-UK.pdf)

⁴ <https://www.theccc.org.uk/wp-content/uploads/2020/01/Land-use-Policies-for-a-Net-Zero-UK.pdf>, page 20

⁵ [Land-use-Policies-for-a-Net-Zero-UK.pdf \(theccc.org.uk\)](https://www.theccc.org.uk/wp-content/uploads/2020/01/Land-use-Policies-for-a-Net-Zero-UK.pdf) see pages 85 & 86

⁶ See chapter 5 on Food security, in the IPCC's special report on Climate Change and Land, <https://doi.org/10.1017/9781009157988.007>

8. **Healthy soils also have extensive benefits for biodiversity.** Soils are host to 25% of the earth's biodiversity and 90% of living organisms in terrestrial ecosystems spend part of their lifecycle in soil habitats.⁷ Soil organisms drive a range of fundamental agricultural processes including fixing nitrogen and carbon and reducing emissions as well as improving soil fertility and the bioremediation of contaminated soils.⁸
9. **Improving soil management can also improve air quality and people's health.** Emissions from soil are an major source of ammonia emissions (for example caused by the application of manure, digestates from anaerobic digestion, and inorganic fertiliser to land).⁹ Ammonia is a precursor to fine particulate matter (PM_{2.5}) pollution, which is the air pollutant recognised by the Government as causing the most harm to human health¹⁰ and, according to data by the European Environment Agency was estimated to be responsible for more than 33,000 premature deaths in the UK in 2019.¹¹ According to the government's own statistics, in 2020 around 5.6% of deaths in those aged over 30 could be attributed to PM_{2.5} air pollution i.e. around 1 in every 18 deaths.¹² Improving farming practices to ensure the sustainable management of soils (e.g. by reducing the use of artificial fertilisers) can reduce ammonia emissions and, by extension, harmful PM_{2.5} pollution.
10. **Investing in soil health brings economic benefits.** A study on the total costs of soil degradation estimated that quantifiable costs ranged between £0.9 billion and £1.4 billion, associated predominantly with the loss of organic content, compaction, and erosion.¹³ As mentioned above, improved soil health also reduces reliance on expensive agricultural inputs, so alleviating direct costs for farmers.

A lack of focus on soil health in UK law and policy

11. Soil health is an essential piece of the puzzle when it comes to UK environmental policy and one that has largely been missing from existing protection frameworks in comparison with other aspects of the environment, such as air and water. Historically, the protection and restoration of soils has been fragmented across several regulations, policy instruments and sectors, meaning that soil health is seen more as a beneficial side effect than as a primary objective. To compound this, the limited regulation that currently exists in the UK related to soils is under imminent threat of removal as a result of the Retained EU Law Bill and/or regulatory reform in connection with the post-CAP agricultural transition.
12. At present, England¹⁴ is falling behind when it comes to putting soil centre stage, despite significant emphasis on the importance of soil health in the Government's *original*, 2018 25 Year Environment Plan (25 YEP). No statutory target relating to soil was included in the final Environment Act targets and there is currently no regulatory framework specifically dedicated to the protection, restoration or monitoring of soils.
13. There is also an overall lack of data on soil health. UK-wide, the most comprehensive data sets on soil health date back to Countryside Surveys in 2007, 1998 and 1978, and the National Soil Inventory based on

⁷ [The State of Knowledge of Soil Biodiversity \(fao.org\)](#) ; [LPR20_Full_report.pdf \(wwf.org.uk\)](#), page 32

⁸ *ibid*

⁹ For example, see https://uk-air.defra.gov.uk/assets/documents/reports/cat09/2203151456_GB_IIR_2022_Submission_v1.pdf, p114

¹⁰ For example, see https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/930104/air-quality-who-pm25-report.pdf, page 4

¹¹ See <https://www.eea.europa.eu/publications/air-quality-in-europe-2021/health-impacts-of-air-pollution>

¹² <https://fingertips.phe.org.uk/profile/public-health-outcomes-framework/data#page/4/gid/1000043/pat/159/par/K02000001/ati/15/are/E92000001/iid/93861/age/230/sex/4/cat/-1/ctp/-1/yr/1/cid/4/tbm/1>

¹³ [The total costs of soil degradation in England and Wales - ScienceDirect](#), see article introduction.

¹⁴ Given that the matters concerning the environment are largely devolved, we are primarily focussing on soil health in England for the purpose of this consultation response.

samples taken in the 80s and 90s.¹⁵ Pressures on land use have changed drastically since then, so it is crucially important that we have more up to date information to inform the best policies to combat soil degradation.

14. In September 2021, the Government announced its intention to publish a draft **Soil Health Action Plan for England** to provide a framework of actions to improve and protect the health of our soils. However, it was recently announced that this proposed action plan would be shelved and instead, the Government has utilised its revised Environmental Improvement Plan released earlier this week to put forward its new delivery plan for soil.
15. The revised EIP sets out the Government's intention to bring at least 40% of England's agricultural soil into sustainable management by 2028 and 60% by 2030, a significant weakening of the ambitions set out in the original 25 YEP.¹⁶ The revised EIP also states that the Government will publish a baseline map of soil health for England by 2028, five years away, despite the Environment Agency underlining the urgent need for more soil health data in its 2019 report on soils.¹⁷ There is little in the revised EIP to suggest that the Government has a clear plan for soils, with the still underdeveloped Environmental Land Management schemes proposed as the primary delivery mechanism to achieving the sustainable management of soils and no clear definition to assess progress on this ambition.
16. Clearly more is needed if even the more limited targets included in the revised EIP¹⁸ are to be accomplished, starting with a comprehensive and holistic policy strategy for soil health enabled by effective and enforced regulations that address the protection and restoration the country's soil resource.

1. How can the Government measure progress towards its goal of making all soils sustainably managed by 2030? What are the challenges in gathering data to measure soil health and how can these barriers be overcome?

The Government's reduction of commitments on soil

17. First and foremost, it is important to underscore the Government's reduced level of ambition on soil health as confirmed in its revised Environmental Improvement Plan. In 2018, the 25 YEP outlined the ambition for all soils to be sustainably managed by 2030, based on a previous commitment included in the then Labour government's 2009 soil strategy "Safeguarding our Soils."¹⁹ This objective has since been reduced to just 60% of agricultural soils only by 2030 in the revised EIP released in January 2023, with little explanation as to why this reduced level of ambition was chosen. Moreover, the shelving of the promised Soil Health Action Plan for England, seemingly at the last minute, in exchange for a few brief pages in the revised EIP, suggests a significant deprioritising of soil health by Government.
18. Not only has the level of ambition decreased, but we are still waiting for an indicator framework on healthy soils, which will be a key delivery mechanism for achieving any progress on current or future targets. Currently, there appears to be no agreed definition or assessment criteria on what sustainable soil management is, and therefore no clear way to hold it in place. In any case, soils and land use vary to such

¹⁵ [The state of the environment soil \(publishing.service.gov.uk\)](#), page 6

¹⁶ [Environmental Improvement Plan \(publishing.service.gov.uk\)](#); see also, [25-year-environment-plan.pdf \(publishing.service.gov.uk\)](#)

¹⁷ [The state of the environment soil \(publishing.service.gov.uk\)](#), page 6

¹⁸ Never mind the more ambitious target of the original 25 YEP.

¹⁹ See '[Safeguarding our Soils - A Strategy for England \(publishing.service.gov.uk\)](#)' page 4. The 2009 report sets out the government's ambition for all of England's soils to be sustainably managed by 2030. Despite the introduction of this target over 13 years ago, soils have been persistently neglected by successive governments. The overall reduction of commitments on soil could be considered a result of failure to take decisive action across this period.

a degree that practices alone should not be considered the core indicators of progress; the Government should also seek to incorporate targets on soil health status and functions to combat specific soil threats.

19. In its latest progress report on the 25 YEP, the Office for Environmental Protection (OEP) concluded that it could not even assess 'healthy soils' as an indicator because of an overall lack of suitable data and analysis, despite its significance in 'supporting functions across many of the 25 YEP goals'.²⁰ However, it considered it 'unrealistic' that the Government would achieve its goal of all soils being sustainably managed due to 'the scale and scope of the challenge, the lack of measures, and the short timeframe'.²¹
20. Instead of using the revised EIP to establish a clear delivery plan and comprehensive indicator framework for soils to make urgent steps towards this target, the Government's response has been to lower levels of ambition. As highlighted above, the concept of sustainable soil management is not a new one and yet, there has been a consistent failure by successive governments to implement policies on soil. The shelving of the Soil Health Action Plan for England is a further example of this, and we strongly encourage the Government to show leadership and take decisive and ambitious action on soils.

The need for a comprehensive soil strategy

21. Soil health is an inherently cross-sectoral issue with far reaching potential benefits, but without ambitious targets and specific policy instruments that address the issues holistically, the Government's ambitions on soil are unattainable. A comprehensive national strategy could provide clarity on the issues around soil management and set out a roadmap to protecting existing soils, improving approaches to widespread monitoring of soil health and restoring degraded soils through better management across departments and agencies.
22. **A clear strategy for soil will support the Government in meeting its existing commitments to the environment and public health.** The OEP's latest progress report delivered a stark warning to the Government that it is currently not on track to meet any of the assessed 23 environmental targets included in the 25 YEP. In relation to the UK's climate commitments, in 2022, the High Court ruled that the UK Government's Net Zero Strategy was unlawful and did not demonstrate how policies and proposals would meet Carbon Budget 6, under the Climate Change Act 2008.²²
23. A clear vision and action plan for soils will support the delivery of the following statutory targets and international commitments:
 - a. The Environment Act 2021 targets: healthy soils will support delivery on air, water quality and biodiversity;
 - b. The UK's climate commitments: the CCC has underscored the importance of low carbon farming, woodland creation and peatland restoration for the delivery of the UK's legally-binding targets under the Climate Change Act 2008, and by extension its Nationally Determined Contribution (NDC) under the Paris Agreement.²³
 - c. International commitments on biodiversity: improving soil health and biodiversity will support the overarching goals and specific targets agreed upon at COP15, in particular on nutrient losses, and restoring and enhancing nature's contribution to people;

²⁰ https://www.theoep.org.uk/sites/default/files/reports-files/Progress_in_improving_the_natural_environment_in_England_2021-2022.pdf, page 46

²¹ Ibid, page 47

²² *R (oao Friends of the Earth, ClientEarth, Good Law Project and Joanna Wheatley) v Secretary of State for Business, Energy and Industrial Strategy* [2022] EWHC 1841 (Admin)

²³ Land use: Policies for a Net Zero UK - Climate Change Committee (theccc.org.uk); <https://www.theccc.org.uk/publication/sixth-carbon-budget/>; <https://www.theccc.org.uk/publication/2022-progress-report-to-parliament/>

- d. The UK's commitments to limit ammonia emissions: healthy, well managed soils can help reduce ammonia emissions, helping to facilitate compliance with the National Emission Ceilings Regulations 2018 and the international treaties these obligations derive from.

A better approach to soil monitoring

24. We welcome the Government's commitment to continue to monitor nationwide soil health as part of the Natural Capital and Ecosystem Assessment (NCEA)²⁴ but believe a more robust package of measures is required, extending beyond the 2030 ambition.
25. Previous data carried out in England on soils is severely limited, undertaken by different bodies and at different scales, with very limited investment from central Government.²⁵ Not only are there very few surveys completed to begin with, they are considerably out of date. While they may provide some baseline data of the few values that are measured, the variables are likely to have changed significantly since the point of measurement.
26. Understanding the heterogeneity of soils through baseline data is crucial to interpreting threats and degradation in specific areas and applying the right solutions. Therefore, it is positive that the Government intends to release a baseline map of soil health for England by 2028, however, this should be delivered as early as possible to enable the ambitions set out in the revised EIP to be met. This data should be underpinned by a framework for describing, grouping, and mapping soils (both topsoil and subsoil) that is widely available to the public.
27. In addition to investment in mapping baseline soil health data, a clear soil health indicator framework is urgently needed for the ongoing monitoring of soils. We encourage the Government to prioritise the release of the soil health index promised in the original 25 YEP and revised EIP, to monitor progress on soil health. The indicators should reflect the most urgent threats to soil health in England as identified by the Environment Agency in its 2019 report on the state of England's soils.²⁶
28. In addition, we support the Sustainable Soils Alliance's recommendation to use the AHDB/NIAB Soil Health scorecard as a universal on-farm topsoil measurement and interpretation framework, and advocate for its application as the common soil measurement thread throughout the Environmental Land Management schemes.²⁷

2. Do current regulations ensure that all landowners/land managers maintain and/or improve soil health? If not, how should they be improved?

A fragmented approach to regulating soils

29. In the UK, there is no primary legislation specifically designed to protect, restore, or monitor soil health in a holistic manner, despite the importance of soils for delivering a range of public goods. Of the existing regulation that intersects with soil health, the focus is through the lens of other indicators like air or water, which results in a patchy and confusing regulatory landscape that land managers find difficult to comply with and that ultimately doesn't go far enough in deterring the most serious polluters.

²⁴ [Environmental Improvement Plan 2023 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/consultations/environmental-improvement-plan-2023) page 180

²⁵ [Our Work | Projects | Sustainable Soils Alliance](#)

²⁶ See [The state of the environment soil \(publishing.service.gov.uk\)](https://publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1000000/state-of-the-environment-soil-report-2022.pdf); These are largely in keeping with the soil threats identified in Wales in a report by the Welsh Government as part of its Soil Policy Evidence Programme, and in Scotland by the Scottish Environmental Protection Agency in its latest state of soil report (however, the latter was released over 10 years ago).

²⁷ We understand that SSA will be making this point in their submission to this consultation.

30. This table shows some²⁸ of the regulations relating to soil health and land use, including whether these qualify as Retained EU Law and their relationship to Cross-Compliance requirements in relation to the still extant agri-environment payment schemes associated with the Common Agricultural Policy.²⁹

Legislation	Purpose	Retained EU Law?	Part of Cross-Compliance?
The Crop Residues (Burning) Regulations 1993/1366	Prohibitions and restrictions on burning crop residues (maintenance of organic matter in the soil)	No – made pursuant to section 152 of the Environmental Protection Act 1990.	GAEC 6: Maintaining the level of organic matter in soil
The Heather and Grass etc Burning (England) Regulations 2007	Prohibition of burning except under licence (maintenance of organic matter in soil)	No - pursuant to section 20(1) of the Hill Farming Act 1946.	GAEC 6: Maintaining the level of organic matter in soil
EIA (Forestry) (England and Wales) Regulations 1999 (as amended)	Impacts of projects on soil must be considered (soil protection)	Yes - pursuant to section 2(2) of the European Communities Act 1972	GAEC 6: Maintaining the level of organic matter in soil
EIA (Agriculture) (England) (No 2) Regulations 2006 (as amended)	Impacts of projects on soil must be considered (soil protection)	Yes - pursuant to section 2(2) of the European Communities Act 1972	GAEC 6: Maintaining the level of organic matter in soil
Common Agricultural Policy (Control and Enforcement, Cross-Compliance, Scrutiny of Transactions and Appeals) Regulations 2014/3263	Implements cross-compliance system on historic CAP farming incentives, as enforced by the Rural Payments Agency, with unique provisions on soil protection not found elsewhere in the regulatory framework	Yes - pursuant to section 2(2) of the European Communities Act 1972.	GAEC: 4 Maintaining the level of organic matter in soil GAEC 5: Minimising soil erosion
The Town and Country Planning (Environmental Impact Assessment) Regulations 2017	Impacts of projects on soil must be considered (soil protection)	Yes - pursuant to section 2(2) of the European Communities Act 1972.	N/A
The Environmental Assessment of Plans and Programmes Regulations 2004	Impacts of plans or programmes on soil must be considered (soil protection)	Yes - pursuant to section 2(2) of the European Communities Act 1972	N/A

²⁸ Note that in this consultation response we have focused predominantly on the regulatory regime for agricultural soils, whilst recognising that there are other relevant legislative frameworks e.g., the National Planning Policy Framework and the legislative framework on the remediation of contaminated land; relevant when it comes to different types and uses of soils and also important to review for the purposes of developing a comprehensive and effective approach to soil health.

²⁹ The relevance of Cross-Compliance is discussed in our answer to Question 3, below.

Reduction and Prevention of Agricultural Diffuse Pollution (England) Regulations 2018/151 Also known as “The Farming Rules for Water”	Aimed at water pollution control but also controls excess input of of fertiliser and organic manure to agricultural land. Includes regulation 10 – ‘reasonable precautions’ in relation to soil management must be followed by land manager	Yes - pursuant to section 2(2) of the European Communities Act 1972 Bill.	N/A but purpose aligns with some elements of cross-compliance
The Nitrate Pollution Prevention Regulations 2015/668 (“the Nitrate Regulations”)	Aimed at water pollution control but also controls excess input of of fertiliser and organic manure to agricultural land, introducing designated Nitrate Vulnerable Zones	Yes – these regulations transpose the EU Nitrates Directive	SMR 1: Nitrate Vulnerable Zones
The Water Resources (Control of Pollution) (Silage, Slurry and Agricultural Fuel Oil) (England) Regulations 2010/639 (“SSAFO”)	Regulations to manage the storage of silage and slurry; assists in implementing the Nitrate Regulations	No - pursuant to domestic water resources legislation but key to the enforceability of the Nitrate Regulations	N/A

Poor enforcement of existing regulations

31. We are concerned that what few regulations exist for soil health are being undermined through a weakened approach to implementation and enforcement, with the Government instead over-relying on advice and guidance. In the specific case of regulations aimed at the protection of water from sources of diffuse agricultural pollution (and which also incidentally protect soil health), ClientEarth refers the Committee to the persistent failure by the Environment Agency to fulfil its statutory duty to investigate breaches and enforce sanctions.
32. For example, over the course of 2020 to 2021, the Environment Agency collectively identified 1,021 breaches of three key regulations³⁰ over a total of 2,213 inspection visits *but issued only a single civil sanction*.³¹ That means that in relation to each offence identified by the Environment Agency under the three regulations, it imposed a sanction 0.1% of the time.
33. We further note that Defra has, for example, in relation to the Farming Rules for Water, issued specific guidance to the Agency that encourages the use of advice and guidance in the discharge of the Agency’s regulatory functions before taking enforcement action.³²
34. In addition, reports allege that the Environment Agency’s budget has been consistently reduced over the course of the last decade, by almost 50% since 2009, which has reduced the staff’s capacity to carry out enforcement action and deter polluters.³³ In 2022, the Guardian reported that Environment Agency staff

³⁰ (1) The Reduction and Prevention of Agricultural Diffuse Pollution (England) Regulations 2018/151, (2) The Nitrate Pollution Prevention Regulations 2015/668 and (3) The Water Resources (Control of Pollution) (Silage, Slurry and Agricultural Fuel Oil) (England) Regulations 2010/639

³¹ Based on the Environment Agency’s response dated 22 March 2022 to a request for information from ClientEarth and WWF.

³² See [Applying the farming rules for water - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/103442/16-03-2022-Defra-Response-to-ClientEarth-and-WWF-Request-for-Information.pdf)

³³ [Staff blow whistle on Environment Agency that ‘no longer deters polluters’ | Environment Agency | The Guardian ; https://www.endsreport.com/article/1705037/ea-heads-blame-budget-cuts-decline-enforcement-monitoring](https://www.endsreport.com/article/1705037/ea-heads-blame-budget-cuts-decline-enforcement-monitoring)

were not properly applying the precautionary principle when it came to granting environmental permits due to financial pressures on the agency and the need to generate income through these permits.³⁴

Risk of losing important protections

35. Despite its fragmented nature, the existing regulatory framework provides some fundamental protection for soil. However, even this level of protection is at real risk of being withdrawn entirely as a result of the Retained EU Law ("REUL") Bill³⁵. Under the REUL Bill, ministers would be able to revoke, replace, restate or update retained EU law without proper parliamentary oversight, and any retained law that isn't specifically addressed by the end of 2023 would automatically expire under a 'sunset clause'. Should the REUL Bill become law, this will have problematic implications for the future of environmental protection in this country as it may result in an enormous gap in the statutory framework as retained EU environmental law - which forms a substantial component of modern environmental law - is modified or revoked over an extremely short timeframe.
36. Many of the existing regulations that intersect with soil that are retained EU law (as we have indicated on the above table) will be at risk of being watered down or entirely eliminated as part of this process. This includes the cross-compliance regulations, the importance of which is set out in our response to Question 3. In addition, Clause 15(5) of the REUL Bill would also act against any opportunity of making the existing regulatory framework stronger in favour of soil protection. This clause states that any regulation introduced to replace retained EU law cannot increase the regulatory burden and, in our view, will empower Government to pursue a deregulatory agenda as opposed to a more robust protection framework for soil and other areas of the environment.

The justification for soil specific legislation

37. Whilst the current, but fragmented, regulatory framework on soil sets down important fundamental protections for soil health, ClientEarth believes that new, soil-specific legislation would provide the approach necessary to fully deliver both on the Government's soil health targets (as set out in the revised EIP), but also a range of important statutory targets for the environment.
38. These include, most notably the:

Climate Change Act 2008 (and the UK's Net Zero Strategy)

39. In July 2022, the High Court ruled that the Government's Net Zero Strategy did not meet the Government's obligations under the Climate Change Act.³⁶ The court found that the Strategy did not include the information on the proposed policies that was necessary for the minister, Parliament and the public to assess "the all-important issue of risk to delivery" of the statutory emissions targets. The Government is due to publish a revised Net Zero Strategy by the end of March 2023 in accordance with the court's Order.³⁷
40. The CCC's 2022 progress report on reducing emissions highlighted serious flaws in the Government's plans to reduce emissions from agriculture and land use, finding them to either lack any credible policies at all (in the case of agriculture) or to be significantly off track (in the case of woodland creation and peatland restoration). The report emphasised a lack of progress on low-carbon farming and measures to decarbonise the agriculture sector and recommended the introduction of a decarbonisation strategy to

³⁴ [Staff blow whistle on Environment Agency that 'no longer deters polluters' | Environment Agency | The Guardian](#)

³⁵ Noting that these and other regulations may have been at risk of modification or revocation as part of the government's review of agricultural regulation on as part of the transition away from CAP in any event.

³⁶ *R (oao Friends of the Earth, ClientEarth, Good Law Project and Joanna Wheatley) v Secretary of State for Business, Energy and Industrial Strategy* [2022] EWHC 1841 (Admin)

³⁷ *ibid*

balance the multiple objectives of climate change, food security, biodiversity, and wider environmental goals. Bold new steps towards policies and legislation on soils will support the CCC's recommendations and the delivery of the UK's commitment on net zero.

41. In this regard, we welcome the announcement of a new land use framework in the revised EIP. This provides an important opportunity to maximise the use of land in England to enable multiple environmental outcomes, including those on climate mitigation and adaptation.

Environment Act 2021 targets

42. The Government laid the final versions of the Environment Act targets in December 2022, two months after the legal deadline to do so. The targets cover a range of areas relevant to soil health, including water targets on reducing nutrient pollution from agriculture, reducing residual waste, increasing species abundance and habitat restoration, and air quality targets to reduce concentrations of PM_{2.5} pollution. Now that these targets are enshrined in law, if the Government does not meet them, the Secretary of State must produce a report explaining why they have not been met and set out the steps taken or being taken to ensure the specified standard is achieved as soon as reasonably practicable.³⁸
43. The targets were widely criticised due to their low ambition levels. For example, on the water target, the Water Expert Advisory Group recommended that a target to reduce phosphorus, nitrogen and sediment loads from agriculture by 50% would get us closer to achieving good ecological outcomes. However, the Government opted for a 40% reduction target, claiming that the widespread changes in agricultural practices and alterations in land use needed to achieve a higher ambition would not be feasible and the impacts on the sector would be too great. Similarly, 90% of respondents disagreed with the level of ambition in the PM_{2.5} targets, with many arguing that the date for compliance with the annual mean concentration target should be brought forward by a decade to 2030.
44. The final targets, despite their limitations, are a fundamental mechanism to bring positive health and environmental outcomes. We consider that effectively delivered targets on soil health and soil management as well as new dedicated regulations on soils, will significantly increase the Government's chances of meeting these wider Environment Act targets.
45. The two air quality targets, for example, are relevant to soil health in that secondary PM_{2.5} (i.e. PM_{2.5} that is formed in the atmosphere, including from ammonia emissions) contributes to ambient concentrations of this pollutant. Ammonia emissions threaten soil health since they cause soil acidification, one of the key soil threats identified by the Environment Agency.³⁹ Therefore, these targets should indirectly benefit soil health to the extent that they may incentivise or necessitate a reduction in ammonia emissions. Similarly, law and policy instruments dedicated to soils will contribute reciprocally to reductions in PM_{2.5}, and therefore the likelihood of the new PM_{2.5} Environment Act targets being met.
46. Benefits to soil health will also directly impact the water target to reduce nutrient pollution from agriculture. Nutritious and biodiverse soils reduce the need for the application of artificial fertilisers which have negative correlations to overall soil health, and reducing soil compaction reduces the risk of run-off into water sources, a leading cause of water pollution. As highlighted above, current regulations designed to curb agricultural diffuse pollution are not having the desired outcome due to incomplete and lax enforcement. Properly enforced regulations that directly relate to monitoring and controlling nutrient levels in soils at a country-wide level at the source, will prevent leaching to the water environment.

³⁸ See provisions 8 to 15 of the Environment Act 2021 ([Environment Act 2021 \(legislation.gov.uk\)](https://www.legislation.gov.uk))

³⁹ [The state of the environment soil \(publishing.service.gov.uk\)](https://publishing.service.gov.uk), see pages 12 & 13

The National Emission Ceilings Regulations 2018

47. These regulations contain legally binding commitments to limit ammonia (NH₃) emissions to certain levels by 2020 and 2030. The Government failed to meet its 2020 emission reduction commitment for ammonia (falling short by 7%) and is also currently projected to miss its 2030 commitments by an even larger margin.⁴⁰ The Government was under a statutory obligation to publish a final revised national air pollution control programme (NAPCP) by 15 September 2022, setting out the measures that would be taken to ensure the 2030 commitment is met. However, it has yet to do so. The Government did put a draft updated NAPCP out for consultation in summer 2022 but it contained insufficient action to tackle ammonia emissions (in part due to an overreliance on voluntary measures) resulting in a persistent compliance risk that the 2030 commitment for ammonia will be exceeded.
48. Law and policy instruments dedicated to the protection of soil health should increase the likelihood of the Government meeting its emission reduction commitment for ammonia. This is because achieving healthy, sustainably managed soils that are appropriately protected from degradation should also reduce ammonia emissions. For example, policy measures that reduce the pressures from agriculture on UK soils (e.g. reducing food waste and promoting healthy diets with reduced meat consumption) and improving farming practices (e.g. reducing the use of artificial fertilisers) would also decrease ammonia emissions.
49. In addition to the fact that a legislative framework aimed at directly protecting soil can help the UK meet its existing commitments to reduce ammonia emissions, it is worth noting that the National Emission Ceilings Regulations also provide important indirect protection for soil health. It does this by aiming to limit emissions of several pollutants that are damaging to soil, including ammonia, but also covering nitrous oxides (NO_x) and sulphur dioxide (SO_x) emissions. Such emissions are a threat to soil health, since they lead to irreversible changes in soil chemistry, negatively impacting biodiversity and reducing habitats' ability to store carbon and mitigate flooding.⁴¹ The government is currently projected to miss its 2030 emission reduction commitments for NO_x and SO_x (as well as ammonia, as stated above).⁴² Accordingly, in addition to putting in place new law and policy instruments to protect soil health, it is also crucial for the Government to abide by these existing legal commitments.
50. Overall, we would like to see a more coordinated approach to these regulations and policies to protect soil health. Delivering tangible outcomes on soil will support the Government in meeting its 2030 emission reduction commitments, which are currently under significant threat.

What could UK soil legislation look like?

51. Examples exist of soil specific legislation across Europe and worldwide, ranging from soil conservation laws, legislation specifically designed to manage soil threats like erosion and pollution, as well as legislation to establish soil conservation committees, boards, institutions, and authorities.⁴³
52. In 2021 the EU launched its flagship 2030 soil strategy, setting out a framework and list of measures to protect and restore soils, and ensure that they are used sustainably managed, with a strong emphasis on the economic, environmental, and social benefits for doing so. As part of this, the Commission has announced it will table a proposal for a new Soil Health Law with the aim of supporting the overarching aim

⁴⁰ https://uk-air.defra.gov.uk/assets/documents/reports/cat09/2203151456_GB_IIR_2022_Submission_v1.pdf, p41 and 41

⁴¹ https://consult.defra.gov.uk/napcp/consultation-on-the-draft-national-air-pollution-c/supporting_documents/Draft%20NAPCP%20for%20consultation.pdf, p46

⁴² See 42

⁴³ See section 3 of Legal and Institutional Frameworks for Sustainable Soils, a Preliminary Report, IUCN Environmental Policy and Law Paper No. 45 (2002) ([45Titel \(iucn.org\)](https://www.iucn.org))

to achieve healthy soils by 2050 with concrete actions by 2030.⁴⁴ Under this law, soil would have the same status of legal protection as air or water.

53. Outside of the EU, the UK should develop a new soil strategy underpinned by legislation to address the specific soil threats that we currently face. This will align with the Government's ambitions to deliver for the environment and 'show leadership on conservation, climate change, land use [and] sustainable global food supplies.'⁴⁵

54. A new legal framework for soil could:

- a. set binding and enforceable protection and restoration targets to address all soil threats, considering different soil types and soil functions, for example specific targets in relation to peat soils;
- b. establish in law a universal national definition and indicator framework for "healthy soils"⁴⁶ to ensure that comparable data is collected and analysed based on these common indicators;
- c. shift the emphasis not just on the sustainable management of soils but to ensuring good soil health status for different types of soils and soil functions across sectors;
- d. embed the environmental principles as a basis for soil protection and restoration;
- e. scrutinise the drivers of poor soil health, for example intensive agricultural practices, and ensure harmonisation across agricultural policy; and
- f. establish a central soil body or commission to coordinate policy initiatives across sectors and ensure the effective enforcement of regulation.

3. Will the standards under Environmental Land Management schemes (ELMs) have sufficient ambition and flexibility to restore soils across different types of agricultural land? What are the threats and opportunities for soil health as ELMs are introduced?

Withdrawal of cross-compliance

55. Before considering the current design and content of ELMS itself in relation to soil health and improvement, it is important to first consider how the withdrawal cross-compliance as part of the larger agricultural transition away from the historic farming incentive schemes under the Common Agricultural Policy may undermine efforts to protect and enhance soil health at a national level. Government policy makes clear that the cross-compliance element of farming incentives will be removed as direct payments are de-linked from land management by 2024 as part of the agricultural transition.⁴⁷

56. Historically, cross-compliance has been a mandatory requirement of the farming incentive schemes, including the Basic Payment Scheme ('BPS'), as required by the Common Agricultural Policy (Control and Enforcement, Cross-Compliance, Scrutiny of Transactions and Appeals) Regulations 2014 (the "2014 Cross-Compliance Regulation") as well as Regulation (EU) No 1306/2013 on the financing, management

⁴⁴ [EUR-Lex - 52021DC0699 - EN - EUR-Lex \(europa.eu\)](#)

⁴⁵ [25-year-environment-plan.pdf \(publishing.service.gov.uk\)](#) page 9

⁴⁶ The Intergovernmental Technical Panel on Soils (ITPS) of the Food and Agriculture Organisation (FAO) Global Soil Partnership defined soil health as "the ability of the soil to sustain the productivity, diversity, and environmental services of terrestrial ecosystems" ([Towards a definition of soil health \(fao.org\)](#)), while the EU Soil Strategy for 2030, describe healthy soils as soils that "are in good chemical, biological and physical condition, and thus able to continuously provide as many of the following ecosystem services as possible." These include providing food, acting as a carbon reservoir and supporting biodiversity. See [COM 2021 699 1 EN ACT part1 VERSION FRIDAY EVENING LUCAS \(europa.eu\)](#), page 4 for full list.

⁴⁷ See, e.g., *The Path to Sustainable Farming* (Defra 2020) at page 10

and monitoring of the common agricultural policy (2013) (the “2013 Cross-Compliance Regulation”). Collectively, these regulations set out the Standards for Good Agricultural and Environmental Condition (“GAECs”) as well as Statutory Management Requirements (“SMRs”) that must be delivered across all farm holdings receiving payment under BPS and other legacy schemes.⁴⁸ .

57. The GAECs include the following standards that are specific to soil health and improvement:
- a. **GAEC 4: Providing minimum soil cover:** GAEC 4 requires the beneficiary to “take all reasonable steps to protect soil by having a minimum soil cover” on their holding, subject to certain exceptions. This requirement is set out in the 2014 Regulation at Schedule 2, paragraph 3.
 - b. **GAEC 5: Minimising soil erosion:** GAEC 5 requires the beneficiary to “take all reasonable steps to put suitable practical measures in place to prevent excessive soil and bankside erosion” caused by, *inter alia*, cropping practices, livestock management, wind and the use of vehicles, trailers and machinery. As with GAEC 4, this requirement is set out in the 2014 Regulation at Schedule 2, paragraph 3.
 - c. **GAEC 6: Maintaining the level of organic matter in soil:** GAEC 6 requires the beneficiary to “maintain soil organic matter through appropriate practices”. This includes the statutory restrictions in relation to burning crop residues (as per the The Crop Residues (Burning) Regulations 1993/1366) and those in relation to burning heather and grass (The Heather and Grass etc Burning (England) Regulations 2007). GAEC 6 also requires compliance with both the Environmental Impact Assessment regulations for both agriculture (the EIA (Agriculture) (England) (No 2) Regulations 2006) and forestry (EIA (Forestry) (England and Wales) Regulations 1999)⁴⁹
58. Other GAECs are also related to the protection and management of soil, such as **GAEC 1: Establishment of buffer strips along water courses**, which requires the beneficiary to “take all reasonable steps” to maintain green cover on land adjacent to watercourses. The beneficiary must also not apply artificial fertiliser or organic manure within such areas, subject to certain thresholds and limitations. These requirements are set out in the 2014 Regulation at Schedule 2, paragraph 4 and in the Nitrate Pollution Prevention Regulations 2015 at regulation 16(4) and 17.
59. It is also worth noting that the requirements of **SMR1: Nitrate Vulnerable Zones** also relate to the protection and management of soils - again in relation to the inappropriate use of artificial fertilisers, organic manures as well as sludge and slurry on land **and** water - and is underpinned by the Nitrates Regulations 2015 and the Water Resources (Control of Pollution) (Silage, Slurry and Agricultural Fuel Oil) (England) Regulations 2010.
60. As upwards of 85,000⁵⁰ farms in England are in receipt of direct payments, this means that these important cross-compliance standards for the protection and enhancement of soil health have historically been, and are currently, in place across a vast area of land likely constituting millions of hectares in England alone.
61. The key point here is that this system of widespread protection for soils across all agricultural land will shortly be removed with the withdrawal of the cross-compliance mechanism (including the repeal of the 2014 Cross-Compliance Regulation and its specific and unique regulatory protections for soil) along with the Rural Payment Agency’s active role in monitoring and enforcing such standards as part of BPS and other legacy CAP agreements.
62. Moreover, many of the independent and underpinning regulations that would otherwise survive the withdrawal of cross-compliance *per se* (e.g., the Environmental Impact Assessment regulations in respect

⁴⁸ See, e.g., [Cross compliance 2023 - GOV.UK \(www.gov.uk\)](https://www.gov.uk)

⁴⁹ See Schedule 2, paragraph 2 of the 2014 regulations.

⁵⁰ See *Moving away from Direct Payments: Agriculture Bill – analysis of the impact of removing Direct Payments* (publishing.service.gov.uk)

of forestry and agriculture) are threatened by the provisions of the Retained EU Law Bill (see the regulations in the table in our response to Question 2, above, which are categorised as both Retained EU Law and are part of cross-compliance). Accordingly, these developments will likely create a significant gap for the legal protection of soil health in England and it is against this gap that the Government's main forwarding looking measure for protecting and enhancing soils, ELMS, should be properly assessed.

63. In response to an environmental information request⁵¹, Natural England confirmed that it was not consulted by Defra in relation to the removal of cross-compliance in relation to the environmental assessment procedures of either Part 6 of the Habitats and Species Regulations 2017 or The Environmental Assessment of Plans and Programmes Regulations 2004. Natural England previously described the potential gap between the withdrawal of cross compliance and the introduction of a fit for purpose ELMS scheme as a "environmentally damaging interregnum" that must be avoided.⁵² However, it seems probable that such a gap will indeed be created in relation to soils and other protections (such as for hedgerows) notwithstanding Natural England's advice.
64. It is clear from a reading of the revised 2023 EIP that the Government's targets for soil health will almost entirely, if not completely, rely on the delivery and effectiveness ELMS and other non-regulatory mechanisms. Neither the role of regulation in supporting soil health targets (as discussed above) nor the risks to these targets posed by a potentially significant regulatory gap on soils (as a result of the planned agricultural transition and/or REUL) is referred to.
65. In terms of ELMS itself, we welcome the Government's proposed expansion of standards relating to soil health, which were included in its 3rd February 2023 ELMS policy paper,⁵³ including in relation to tillage practices (no till and direct drilling), precision farming approaches and agroforestry (noting, however, that the full details of these standards will not be provided under the summer of 2023 at the earliest).
66. There remain several significant barriers, however, to the widescale delivery of ELMS, as either currently designed or as expanded in future, which will limit its role in achieving the EIP targets.

Reliance on voluntary measures

67. The fact that participation in ELMS is not only voluntary, but also will not include any mandatory 'whole farm' minimum environmental protection standards (as does the current system of cross-compliance) is problematic in terms of its reliance as the primary route to improved soil health on agricultural land. The Government's recent policy paper on ELMS makes clear throughout that the schemes are intended to be as 'flexible' as possible "so that farmers can choose the combination of actions that works for their farm setting."⁵⁴
68. Whilst flexibility in relation to the choice of standards for any particular farming environment makes complete sense, the absence of mandatory minimum standards (such as those reflected within cross compliance), means that individual environmental outcomes, such as soil health, may be difficult to consistently deliver on a national level. Indeed, a leading farming industry group recently commented that Defra were adopting a 'pick and mix' approach to ELMS.⁵⁵
69. It is difficult to foresee how the Government can rely on a voluntary 'pick and mix' approach to deliver a national soils target over a vast area of land. The Government should instead seriously consider integrating a clear mechanism into ELMS that positively requires compliance with a defined regulatory baseline,

⁵¹ EIR response from Natural England to WWF UK of 17th May 2022, which has been shared with ClientEarth.

⁵² [Health and Harmony: the future for food, farming and the environment in a Green Brexit - Defra - Citizen Space](#)

⁵³ [Environmental Land Management update: how government will pay for land-based environment and climate goods and services - GOV.UK \(www.gov.uk\)](#)

⁵⁴ Ibid

⁵⁵ 'Defra adds six new standards to SFI scheme for 2023', Farmers Weekly, 27 January 2023

including on soils, to make sure that minimum soil health standards are in place on every holding that receives ELMs incentives.

Payment rates and low uptake

70. There has been much public debate over the course of the development of ELMs as to whether the proposed 'public money for public goods' payment rates are sufficient to incentivise farmers to apply for ELMs in the first place, with many in the farming sector indicating that the rates are far too low to assure widespread uptake. Although the Government has recently responded to this by raising certain payment rates,⁵⁶ e.g., the new payment of an additional £20 hectare for the first 50 hectares (up to a £1,000) to participate in the SFI scheme, such modest increases must of course be read against the phasing out of Basic Payments by 2028. As of January 2023, it appears that only 1,900 farmers⁵⁷ had signed up to the existing SFI standards – a far cry from achieving real momentum on the soil health and other statutory environmental targets given that there upwards of 85,000 farms in England.
71. Even in the very latest Defra policy paper on ELMs, the rationale behind various payment rates is not clear. For example, the rates for standards on integrated pest management are relatively high (e.g., £673 per hectare for the establishment and maintenance of flower rich strips to attract natural pest enemies), whilst the original SFI soil standard payment rates are substantially lower (£22 and £40 per ha for each of the three soil standard actions⁵⁸ for the introductory and intermediate levels, respectively). Given these notable discrepancies, it stands to reason that farmers may 'pick' some standards, such as those for pest management whilst by-passing the soil standards all together in favour of a 'business as usual' approach to soil management outside of ELMs.
72. As such, implementing competitive payment rates across ELMs should be a priority to ensure that the right level of uptake is in place to ensure meaningful delivery against the soil (and other environmental) targets. In this regard, the Government should refer back to the findings and recommendations of the Dasgupta review⁵⁹, which it commissioned, and which recommends a shift towards recognising the true value of natural capital in public policy affairs; applied here, 'public money for public goods' that reflects the true value of the manifold benefits healthy and productive soil for the public.

The importance of maintaining a regulatory baseline

73. Finally, it must be emphasised that whilst ELMs can be a valuable tool for improving soil health over and above the requirements a regulatory baseline, it is no substitute for it.
74. Indeed, the original 25 YEP highlighted the need for a 'balance of incentives and regulations'⁶⁰ in its approach to land use changes. A comprehensive and sufficiently enforced regulatory baseline offers a fundamental protection against the ongoing degradation of soils and implements the "polluter pays" principle, a fundamental principle of international law and one that has been recognised by the UK Government in its own Environmental Principles Policy Statement (EPPS), one of the four pillars of the Environment Act 2021. In this statement, the Government defines the principle to mean that, "where possible, the costs of pollution should be borne by those causing it, rather than the person who suffers the effects of the resulting environmental damage, or the wider community."⁶¹

⁵⁶ Id.

⁵⁷ [Thérèse Coffey: Farmers central to food production and environmental action - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/news/farmers-central-to-food-production-and-environmental-action)

⁵⁸ [Environmental Land Management update: how government will pay for land-based environment and climate goods and services - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/news/environmental-land-management-update-how-government-will-pay-for-land-based-environment-and-climate-goods-and-services)

⁵⁹ Dasgupta, P. (2021) 'The Economics of Biodiversity: The Dasgupta Review' (London: HM Treasury)

⁶⁰ [25-year-environment-plan.pdf \(publishing.service.gov.uk\)](https://www.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/101422/25-year-environment-plan.pdf), page 22

⁶¹ See final Environmental Principles Policy Statement (Defra 31st January 2022). It is of note that a separate environmental principle, the prevention principle, is also capable being achieved via a regulatory approach that

75. In this regard, value for public money also becomes highly relevant. Under ELMS,⁶² the taxpayer should not shoulder the burden of costs associated with meeting minimum standards for environmental protection - which very often only reflect established good farming practice⁶³. The aim of such schemes should be to incentivise innovative and progressive techniques and the delivery of public goods but not reward basic compliance or shift the cost burden of preventing or remediating the impacts of polluters.
76. In the case of soil health, a comprehensive strategy must include a mix of incentives and regulations to both protect and enhance soil health that fulfils these fundamental principles. For this reason, the current regulatory baseline for soils should be maintained and, as recommended above, expanded and improved in order to deliver a holistic national approach to the protection and enhancement of soil health.

promotes deterrence. As the prevention principle avoids environmental harm altogether, it is the preferential approach to dealing with potential environmental impacts.

⁶² See also our response to question 3.

⁶³ See, e.g., DEFRA: Protecting our water, soil and air: a code of good agricultural practice for farmers, growers and land managers (2009)

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