

Final Report

Towards the development of a UK Peatland Code

Payments for Ecosystem Services (PES) Pilot Research Project



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Executive Summary

This Final Report describes research into the rationale and basis for the development of a UK Peatland Code. The development of the Code was supported by the latest relevant research evidence, via an international expert workshop, and by feedback from the Code's Steering Group and 17 individuals/organisations from across the UK. The Code was launched in September 2013, at the start of an 18-month pilot phase of operation, in which the Code will be further developed, and is available online: <http://www.iucn-uk-peatlandprogramme.org/peatland-code>.

There is growing interest in the creation of new markets to facilitate private investment in the provision of ecosystem services, and this was a key emphasis of Defra's 2011 Natural Environment White Paper. The White Paper led to the formation of an Ecosystem Markets Taskforce to identify business opportunities in the natural environment that recommended the development of a UK Peatland Code in its report in March 2013. Subsequently in May 2013, Defra published an action plan for developing the potential for payments for ecosystem services in which it committed to work in partnership with the IUCN and others to support the testing, development and launch later in 2013 of a pilot UK Peatland Code.

UK peatlands are a relevant place to explore the potential to pay for ecosystem services, given the range and importance of ecosystem services that they supply, and that fact that many of these services are not widely or fully paid for via agricultural support payments or by markets. This has led to the degradation of many peatlands through inappropriate burning, over-grazing and drainage, leading to reductions in carbon storage, water quality and biodiversity. Investing in conserving and restoring peatlands is therefore a key tool to help deliver the UK's climate change obligations, whilst helping meet other national and international obligations on biodiversity and water quality.

Although there is growing interest from the private sector in paying for some of these ecosystem services, and there have been a small number of bilateral agreements to pay for peatland restoration via the Corporate Social Responsibility market, there is a need to develop guidance, frameworks and monitoring to provide sponsors with the confidence necessary to restore peatlands on any significant scale.

This Payment for Ecosystem Service (PES) pilot research project therefore conducted the research necessary to develop and launch a UK pilot Peatland Code, designed to support markets that could pay for the restoration and re-wetting of degraded peatlands across the UK. The research project and subsequent Code drew significantly on Defra's PES Best Practice Guide, first identifying a saleable ecosystem service and prospective buyers and sellers, based on previous work and new market research conducted as part of this project (Phase 1 in the PES Guide). The Code establishes the principles for a peatland PES scheme, and resolves a number of technical issues, to make it possible for buyers and sellers to work together for peatland restoration (Phase 2 in the PES Guide). The Code also provides guidance on contracts and monitoring (Phases 3 and 4 of the PES Guide), and takes a bundled approach to PES (a 'premium carbon' scheme that provides a range of co-benefits), whilst not ruling out the possibility of layered schemes (e.g. using the Code to elicit payments for climate mitigation benefits on top of existing schemes that pay for water quality benefits) (Phase 5 of the PES Guide). The research offers a number of insights into the creation of markets for ecosystem services linked to peatland restoration. It also offers insights of more general relevance to the creation and

implementation of new markets for ecosystem services, which may be of relevance to other habitats and ecosystems in the UK, and to the development of new PES schemes internationally.

Table 1 provides an overview of: the concept behind the Code; buyers, sellers and intermediaries and associated issues; other challenges; an overall assessment of whether there is proof of concept; potential for wider application beyond the study area; and the legacy and next steps. The rest of this summary considers the wider lessons that have been learned from this Pilot for Defra’s wider agenda on Payments for Ecosystem Services.

Table 1: Overview of Peatland Code PES pilot.

Concept	This PES pilot set out to conduct the research necessary to develop a UK Peatland Code that can provide the basis for business investment in effective peatland restoration that delivers a range of ecosystem services
Buyers	<p>Market research demonstrated that there is an appetite for Corporate Social Responsibility sponsorship of peatland restoration projects in the UK, with companies prepared to pay a premium for projects connected to their business that could deliver multiple benefits:</p> <ul style="list-style-type: none"> • Broadly speaking, two types of potential investors emerged from this analysis: i) multi-nationals with UK brand identity, and a substantial UK customer and/or employee base in relatively close proximity to peatland restoration sites who wish to build brand awareness & loyalty. This group was more interested in the possibility of future trading/accounting, though for those with large emissions the co-benefits were more important; and ii) Small and Medium-sized Enterprises (SMEs) with brand or product lines linked to peatlands e.g. food and drink, hospitality/tourism. This group were more interested in the full range of benefits from peatland restoration to help market products • Sectors with particular interests in peatland restoration included: i) food & drink (marketing brands and product lines linked to peat/uplands e.g. fell bred lamb, spring water products, whiskey etc.); ii) hospitality/tourism linked to uplands; iii) energy (compensating damage from infrastructure on peatlands); iv) water (capturing the carbon benefits of work for carried out primarily for water quality benefits); and v) horticulture (enhancing peat-free brands) • Companies interviewed for this research were primarily interested in the carbon benefits of peatland restoration, and wanted rigorous quantification of this benefit. However they were also interested in particular in biodiversity, followed by water quality (especially water utilities and companies with large water usage). Interviewees were content for these co-benefits to be vouched for by an expert panel or to be delivered via a well-known NGO that they trust • The companies interviewed were generally prepared to pay a premium for UK projects that could deliver multiple-benefits. They were content to see bespoke pricing of projects to reflect the location and range of co-benefits that might link to different product lines. The key price differential was between UK peatland restoration schemes and non-UK multiple benefit schemes (rather than other UK land-based projects) <p>Key challenges associated with buyers include:</p>

	<ul style="list-style-type: none"> • The majority of Corporate Social Responsibility (CSR) in the UK is focused on delivering social benefits in developing countries. Market research suggests that the UK Peatland Code may benefit from identifying social benefits, and to this end, options have been created for sponsors to donate towards social projects linked to restoration • During the pilot phase, sponsorship can only be on the basis of CSR, not for offsetting purposes. However, businesses would like information about the likely value of their investments per tonne of CO₂-equivalent, so that sponsorship of projects under the Code could be considered investment in a potential future asset, which could reasonably provide a future return on investment, assuming it were possible to trade carbon from peatland restoration in future. This has been addressed in the development of a flyer explaining the Code to potential sponsors (Appendix 4). Further financial modelling of the costs and benefit to buyers would also be helpful during the pilot phase. • The climate mitigation benefits of peatland restoration are not as immediately obvious and tangible as tree planting, and peat bogs are not as immediately appealing to corporate stakeholders as forests. It will therefore be important to communicate clearly around the benefits of peatland restoration (see flyer in Appendix 4) • When prioritizing public investment in peatland restoration, it is necessary to prioritise the most degraded sites where there are greatest carbon and biodiversity gains, c.f. the WISE approach in Scotland. However, it is likely that market-based criteria will dictate the location of many sites that are restored under the Peatland Code e.g. sites that are located close to a company's customer base or operations. This should not be problematic because the Code ensures that all sites will provide climate mitigation benefits (with associated co-benefits) that are additional, and provides other safeguards to ensure that the market delivers real environmental benefits. The report therefore suggests that it may be worth considering whether public funding can be prioritized in the sites that are least likely to be restored under the Code (e.g. particularly remote sites).
<p>Sellers</p>	<p>Although they will need to work in close collaboration with land managers and tenants, sellers engaging with the UK Peatland Code are likely to primarily be landowners, as they are able to enter into contractual agreements with sponsors to undertake restoration to secure benefits over the long-term. However, sellers are obliged to consult with tenants and land managers where relevant, and a range of other stakeholders who have rights over the land that is to be restored, including regulators who may have strategies that work either in opposition or synergy with aspirations for peatland restoration.</p> <p>It is anticipated that the majority of sellers during the pilot phase are likely to be landowning conservation NGOs and charities, many who already have existing objectives around peatland restoration that could be met through corporate sponsorship.</p> <p>Several issues may reduce participation from private landowners during the pilot phase of the Code's operation, including contract lengths, uncertainty around interactions with agricultural payments and the possibility that restored land may fall under statutory designations that could limit future changes in management. These issues will</p>

	<p>be explored during the pilot phase, to generate options that can reduce risk for this group and make more land available for restoration under the Code.</p> <p>Due to the high ongoing costs of monitoring co-benefits in detail, the Code strongly encourages detailed monitoring of co-benefits wherever possible, but where this is not possible, suggests that projects may create a narrative based on published evidence and include this in their Environmental Statement. This is designed to provide sponsors with information about the likely co-benefits in a particular site, on the basis of credible evidence, but without requiring expensive ongoing monitoring.</p>
Intermediaries	<p>A range of intermediaries have expressed interest in working with buyers and sellers under the UK Peatland Code. It is possible for buyers and sellers to organize bi-lateral contracts under the Code without the assistance of an intermediary, and it is possible that groups of sellers (e.g. conservation NGOs and charities) may self-organise to pool expertise and organize contracts under the Code without the assistance of intermediaries. However, given the complexity of the Code, it is likely that intermediaries will work with the majority of buyers and sellers, with the assistance of a range of land-based professionals e.g. Chartered Surveyors.</p>
Proof of concept	<p>A draft Peatland Code has been developed, and revised in response to feedback from a wide range of organisations with interests and expertise in this area. A marketing pitch to potential sponsors has been developed (Appendix 4) and tested with a range of potential corporate investors, who gave positive feedback. However, proof of concept depends upon attracting corporate sponsorship of peatland restoration projects, and the successful operation of the Code to channel these investments into peatland restoration (including the successful use of the metrics that underpin it).</p>
Transferability	<p>The UK is now widely perceived to be leading the PES agenda in Europe, and the UK Peatland Code has the potential to become a template for similar initiatives internationally. The expertise developed through this pilot research project may make it possible to develop markets for other habitats and ecosystem services in future, and for the UK to help other countries develop regional carbon markets for peatlands. The project has already been invited to present experience developing the UK Peatland Code to a conference organized by the German Federal Agency for Nature Conservation (BfN) in co-operation with the European Network of Heads of Nature Conservation Agencies (ENCA), and other opportunities are being explored by members of the project team.</p>
Legacy and next steps	<p>A draft UK Peatland Code is being launched in September, initiating a pilot implementation phase in which the Code will be further developed and tested. The aim of the pilot phase is to encourage early sponsorship of peatland restoration to help demonstrate peatland benefits and build an increasingly robust evidence base and methodology for future phases of Code development. Lasting 18 months, the pilot implementation phase will focus on further developing infrastructure for the Code, including: testing and refining proxy models for carbon monitoring and developing a standardised field protocol for vegetation monitoring; developing evidence-based financial analysis of the various life-cycle costs associated with investing in peatland restoration; and work with the UK Accreditation Service and existing third-party UKAS-accredited auditors to develop protocols to assess and accredit auditors and projects under the Peatland Code. The goal is to develop a registry for Peatland Code projects to issue and record ownership and transfers of GHG emission reduction credits and their</p>

	retirement (see glossary), cancellation or suspension under different circumstances.
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A number of broader lessons may be extracted from this research for Defra's wider PES agenda:

- **PES schemes are not inconsistent with protecting nature for its intrinsic value.** In the same way that society puts a value on the services people provide to the economy and put an economic value on a healthy workforce without putting a value on a human life, there is no contradiction in believing in the intrinsic value of nature, whilst also valuing the services it provides. Society invests in public health programmes primarily because we value human life, but it also makes economic sense to have a healthy workforce. In the same way, it is possible to invest in nature conservation primarily because we intrinsically value non-human life, but as this research has demonstrated, there is also a strong case that healthy ecosystems bring many benefits to our economy and society, that the private sector is willing to pay for. Rather than 'putting a price on nature', the Code is intended to facilitate the discovery and expression of some of the formerly overlooked benefits provided by nature from peatlands, that investors may now ascribe tangible value to, via investing in restoration.
- **A number of generally applicable benefits or motivations for business to engage with PES schemes may be inferred from this research,** for example: for some business sectors, investing in PES schemes can help reduce costs (e.g. water intensive industries or business that require high water quality); for other companies, PES may be an opportunity to meet environmental obligations; PES can demonstrate corporate responsibility towards the natural environment ; and some businesses may be able to use PES schemes to market specific product lines linked to particular habitats or services.
- **To avoid unintended consequences and provide investors with the necessary confidence, PES markets need appropriate guidance, frameworks and monitoring.** Such guidance needs to ensure that: benefits are new and would not otherwise have occurred ('additionality'); benefits are not lost or reversed in future; the PES scheme does not result in 'leakage' wherein damaging activities are simply transferred elsewhere; benefits are appropriately monitored and quantified; and payments for one ecosystem service do not lead to trade-offs with other ecosystem services that are currently outside the market
- **It is likely that codes of practice will need to be developed on a habitat-by-habitat basis.** If there is a proliferation of guidance for different habitats (or services) in future, there may be a role for Government to ensure standardisation of approaches and co-ordinate between schemes. For example, it may be possible to develop a combined code for land-based carbon
- **Landowners tend to favour less risky, short-term agreements to provide ecosystem services, but investors and Government need to ensure these benefits are secured for the long-term and not reversed.** This may limit the range of sellers willing to enter PES schemes, making it hard to meet demand and target the most degraded sites
- **Engaging local stakeholders early on in the development process helps create the right conditions for PES schemes to develop successfully.** Techniques such as participatory mapping and modelling enable better understanding of different ecosystems services under a variety of scenarios, enabling trade-offs to be negotiated, and priorities agreed
- **There are a number of ways to avoid payments for one service (e.g. climate regulation or water quality) leading to trade-offs with other services that are harder to monetise and market (e.g. biodiversity or aesthetic benefits).** One option is to create additional markets

for as many of these additional services as possible, and run these in parallel and co-ordinated with each other in the same landscape. An alternative is to 'bundle' these co-benefits with the anchor service, which can then be marketed at a higher price, effectively paying for the co-benefits but without the need for such rigorous monitoring of co-benefits.

- **Integration of private PES with public PES via agri-environmental schemes is technically feasible, and may lead to a number of potential benefits and challenges.** The Code allows for joint funding of peatland restoration from both private funding and agri-environment schemes. The detailed mechanisms for how this integration might be achieved in practice will be explored during the pilot phase of the Code's operation.
- **Permanence can be achieved beyond the end of contracts for peatland restoration projects.** The Code addresses the permanence (see glossary) issue legally through covenants placed on the land, and practically through a process of assessing and managing the risks of restoration being reversed.

The UK Peatland Code is a front-runner in the development of guidance, frameworks and monitoring to underpin the development of PES schemes in the UK. The experience and expertise gained during this Defra PES Pilot research project, combined with best practice guidance, may be used to extend PES to a range of habitats and ecosystem services across the UK and internationally. PES schemes are not without challenges. Some of these challenges are more conceptual in nature, for example questions around the 'neo-liberalisation' of conservation policy and social justice. Other challenges are more practical, for example guaranteeing the permanence of GHG emission reductions and determining how private payments for ecosystem services may interface with public payments via agri-environment schemes. Although many of these conceptual and practical challenges are still to be resolved, the development of the UK Peatland Code has provided an opportunity to tackle a number of them. This has been successful enough for us to be able to launch a pilot phase of operation, in which it will be possible to further investigate and tackle the remaining challenges entailed in successfully operating PES schemes for the restoration of UK peatlands.

1. Introduction

This Defra-funded Payment for Ecosystem Service (PES) Pilot research project conducted the research necessary to develop and launch a UK Peatland Code, designed to support markets that could pay for the restoration and re-wetting of degraded peatlands across the UK. This was done through a combination of market and desk-based research plus a workshop with around 20 international experts in Germany. In this way it was possible to ensure that Code development was based on the latest available evidence, whilst learning from experience developing markets for peatland restoration in Germany and elsewhere internationally. Specifically, the objectives of the research were to:

1. identify the components required for a pilot phase UK Peatland Code;
2. conduct market research to better understand the preferences of potential buyers and ensure the code caters for their needs;
3. develop and launch a pilot implementation phase for the UK Peatland Code to support peatland restoration pilot projects funded through private investment (investment was sought separately in parallel with this research project); and
4. facilitate knowledge exchange between existing DEFRA and other related projects and initiatives to inform further Code development.

Intact peatlands provide many important ecosystem services, including climate regulation through carbon sequestration and storage, water regulation, provision of palaeo-environmental archives and recreation opportunities, as well as provision of habitats for nationally and internationally important wildlife (Bonn *et al.*, under review). When drained, however, peatlands can turn into significant sources of greenhouse gas (GHG) emissions and affect water quality, human health and biodiversity (Parish *et al.* 2008; Bonn *et al.* 2009b; van der Wal *et al.* 2011). Drained organic soils with low water tables continue to degrade and to emit CO₂, until drainage is reversed. Degraded peatlands are responsible globally for 25% of CO₂ emissions from the land use sector, and in the European Union for 75% of GHG emissions from agricultural land use (Joosten 2009). Degraded peatlands pose a high risk and, ultimately, high cost to society, albeit one currently outside of markets.

Peatlands have therefore been identified as a priority for action under international agreements (Stoneman *et al.* 2013). Global agreements such as the UN Convention on Biological Diversity (CBD) and the Nagoya protocol, the UN Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol, and the Ramsar Convention on Wetlands, promote peatland restoration as a key contribution towards reaching biodiversity and climate targets (Joosten 2011). Peatland restoration may also be able to help deliver on Defra's Biodiversity 2020 targets¹ and equivalent biodiversity strategies in the Devolved Administrations.

In the UK, the IUCN UK Commission of Inquiry on Peatlands reported that over 80 % of UK peatlands have been damaged, largely as a result of drainage for agriculture, forestry, track building or peat extraction. In line with national and international obligations on biodiversity and climate, such as the 2020 EU Biodiversity Strategy (European Commission 2011), the IUCN UK Commission of Inquiry on

¹ See: <https://www.gov.uk/government/publications/biodiversity-2020-a-strategy-for-england-s-wildlife-and-ecosystem-services>

Peatlands suggested a target of 1 million hectares (ha) of peatlands in good condition or under restoration management by 2020 (Bain *et al.* 2011).

Given growing national and global political recognition of the climate mitigation benefits of conserving and restoring peatlands, reinforcing their established biodiversity value (Littlewood *et al.*, 2010), opportunities to fund these activities have greatly increased. However, to achieve restoration at the scale suggested by Bain *et al.* (2011) in the UK, and to reverse peatland degradation at a global scale, a combination of public and private investment is likely to be needed. Although the Kyoto Protocol created an international market for carbon under the UK Framework Convention on Climate Change (known as the 'compliance market'), it would require legislative changes at EU and country level for these markets to be used to support peatland restoration in Europe. Voluntary carbon markets are now trading peatland carbon in Central and Eastern Europe, but this market has been limited by a weak voluntary carbon price, combined with high accreditation costs. Although the Corporate Social Responsibility market may be more likely to cover restoration costs, this is a much smaller market. There is therefore growing interest in the creation of regional carbon markets, selling the climate benefits of restoration to buyers within the same region or country, and lowering accreditation costs while adapting schemes more effectively to local conditions (Bonn *et al.*, under review).

The potential to develop a regional carbon market for peatland restoration in the UK was first explored in the Rural Economy & Land Use programme Sustainable Uplands project (Worrall *et al.* 2009; Settelmyer & Eaton 2010). This led to a call from across the peatland research, policy and practitioner community for the development of a UK Peatland Code at the IUCN UK Peatland Programme conference in Stirling, in 2011. Soon after this, the Government's 2011 Natural Environment White Paper *The Natural Choice* (HM Government 2011) was published, emphasising the creation of new markets to pay for ecosystem services. The White Paper announced the formation of an Ecosystem Markets Taskforce, to identify business opportunities in light of the National Ecosystem Assessment. Initial evidence gathering for the Taskforce ranked a UK Peatland Code as their joint top opportunity out of 44 submitted opportunities by the Taskforce, and it recommended the development of a robust code for peatland restoration in its final report in March 2013. The Natural Environment White Paper committed to producing a Payment for Ecosystem Service Best Practice Guide, which Defra published in May 2013, featuring the Peatland Code as a case study. The White Paper also committed to producing a Payment for Ecosystem Service Action Plan, which Defra also published in May 2013, and which highlighted peatland restoration via the Peatland Code as one of five specific opportunity areas. The PES Action Plan made a commitment for Defra to work in partnership with the IUCN and others to support the testing, development and launch of a pilot Peatland Code later in 2013. In July 2013, the Committee on Climate Change (an independent, statutory body established under the Climate Change Act 2008) also highlighted the development of a Peatland Code as a "key priority", drawing on evidence from Defra's PES Action Plan. In a letter to the IUCN UK Peatland Programme (5th February 2013), the four country Ministers welcomed the IUCN's work and set out a framework for action including co-operation and co-ordinated action to support the development of the Peatland Code. This intention was re-iterated in the UK Government's National Adaptation Plan in July 2013.

To address these calls for action, the IUCN UK Peatland Programme and the NERC Valuing Nature Network project 'Valuing Peatlands: Assessing and valuing peatland ecosystem services for sustainable management' led to stakeholder discussions in 2012 to prepare a route map towards a

Peatland Code for the UK. Participants included representatives from the business, policy and practitioner communities, scientists and carbon market consultants. Building on this momentum, this PES Pilot research project funded by the UK Government's Department for Environment, Food & Rural Affairs (DEFRA) has supported the actual development of a pilot UK Peatland Code. This research PES Pilot project has been conducted in parallel with a project funded by DEFRA and Natural England to adapt a proxy-based approach for cost-effective monitoring of GHG emission savings from restoration projects to the UK context (Quick *et al.*, 2013; Birnie and Smyth, 2013). It also builds on experience developing a regional carbon market for UK forestry (the UK Woodland Carbon Code) and experience developing regional markets for peatland restoration in Germany (the MoorFutures scheme, Box 1).

This Final Report describes how a regional carbon market (see glossary for definition) for peatland restoration is being developed for the UK. Section 2 considers the extent and condition of peatlands internationally and in the UK, their climate change mitigation potential and how changes in GHG emissions after restoration may be measured. It considers the cost-effectiveness of peatland restoration and summarises market research on business interest in investing in these sorts of projects (see Appendix 3 for the market research report). Section 3 then considers the international policy and carbon market context, and describes how markets for peatland restoration have been developed in NE Germany. Finally in Section 4, the paper describes the development of a UK Peatland Code, designed to help fund peatland restoration by providing guidance to restoration projects whilst providing sponsors with quantification and official IUCN recognition of the climate and other benefits arising from the projects they fund.

2. The role of peatland restoration in climate regulation

The carbon budget of peatland ecosystems and resulting GHG emissions and removals is largely controlled by the degree of water saturation, as well as climate and nutrient availability (IPCC 2006). In their natural state, water-logged conditions encountered in peatlands lead to anoxic (oxygen-poor) soil conditions which significantly slow decomposition of dead plant material, resulting in the accumulation of peat (Clymo 1984). In this way, peatlands have withdrawn vast amounts of carbon from the atmosphere over the past millennia, making them the most efficient terrestrial carbon store (Joosten *et al.* 2013).

The carbon stored in peatlands is highly sensitive to disturbance, however. In particular, lowered water tables can, by increasing the zone of aerobic decomposition, quickly turn peatlands into significant net GHG sources (e.g. Couwenberg *et al.* 2011, Evans *et al.*, under review). Pathways of carbon losses from peatlands include gaseous fluxes ('on-site emissions'), and also waterborne fluxes and/or biomass removals that can be converted to gaseous fluxes at a later stage ('off-site emissions'). Gaseous fluxes consist of losses of carbon dioxide (CO₂) through soil respiration under aerobic conditions (peat decomposition) and methane (CH₄) emissions through activity of methanogenic bacteria under anaerobic conditions. In the few cases where nitrous oxide fluxes have been measured they have been found to be negligible unless a peatland has been fertilised with nitrogen or there has been significant atmospheric N deposition (Artz *et al.* 2012). Waterborne fluxes consist primarily of export of dissolved organic carbon (DOC) from drainage waters and erosional losses of particulate organic carbon (POC), as well as losses of dissolved inorganic carbon (DIC), dissolved CO₂ and dissolved CH₄ (Worrall & Evans 2009; Billett *et al.* 2010).

Methane (CH₄) emissions from peatlands with high water tables are strongly mediated by plant composition. Aerenchymous higher plants, such as the cotton grass *Eriophorum* species, incorporate a 'ventilation system' within their stems and roots to allow oxygen ingress to roots located below the water table, which also enable the transfer of CH₄ from the plant roots to the surface (bypassing CH₄-oxidising bacteria within the aerobic soil layer). On the other hand, reduced emissions have been recorded from areas dominated by moss, e.g. *Sphagnum*, which can harbour symbiotic methane-oxidisers (Raghoebarsing *et al.* 2005; Minkinen & Laine 2006). When peatlands are restored to their natural water levels, CH₄ emissions typically rise again, and may experience a transient potential 'methane spike' as labile organic matter is consumed by methanogens, which may be amplified or extended if rewetted areas are colonized by aerenchymous plants. Recent research indicates that increases in CH₄ following restoration through ditch blocking and associated pools may be short lived if *Sphagnum* or other non-aerenchymous plants are able to re-establish (Cooper *et al.*, in press). Such re-vegetation may be facilitated by active restoration measures to encourage *Sphagnum* growth, or by the creation of deeper pools in blocked ditches which favour *Sphagnum* over *Eriophorum* growth (Peacock *et al.*, 2013).

Not all restored peatlands will immediately become carbon sinks, due to transiently high methane emissions, and lags in the re-establishment of peat-forming vegetation. However compared to the potentially significant loss of carbon from drained or eroding peatlands, restored peatlands generally either stabilise carbon losses (i.e. become 'carbon neutral') or ultimately accumulate carbon and

provide a long-term sink as atmospheric carbon is laid down as peat (Baird *et al.*, 2009; Frohking *et al.* 2006; Worrall *et al.* 2010; Bain *et al.*, 2011; Joosten 2011; Marsden and Ebmeier, 2012).

2.1 Extent and condition of peatlands in the UK

The current state of UK peatlands and organic soils has recently been evaluated by national conservation agencies (JNCC 2011) and by the IUCN UK Commission of Inquiry on Peatlands (Bain *et al.* 2011) (Table 2). In total, deep peats and organic soils cover around 2.7 M ha, or 11% of the total UK land area. Shallow peaty soils cover another 4.7 M ha, indicating in some cases where peatland habitats existed in the past – in total a third of all UK soils (JNCC 2011). There are three main types of peatland in the UK: blanket bogs, raised bogs and fens, all protected under international and national wildlife law. Blanket and raised bogs make up 95% of all remaining UK peatlands. Blanket bogs dominate and are associated with maritime, high rainfall conditions, which are rare on a global scale (Bain *et al.* 2011; Gallego-Sala & Colin Prentice 2012). The majority of peat and peaty soils in the UK are located in Scotland (particularly NW), the Pennines in northern England and in parts of Northern Ireland, with localised concentrations of peat in East Anglia and SW England (Bain *et al.*, 2011).

Over 80% of UK peatlands are considered to be in a degraded state (JNCC 2011), mainly due to drainage, fire, grazing and afforestation, as well as atmospheric pollution (Holden *et al.* 2007; Bonn *et al.* 2009a). Most UK peatlands are no longer peat forming: 16% are severely eroded, 10% have been afforested, 11% are affected by past peat cutting and 40% have been modified or destroyed by conversion to agriculture (Littlewood *et al.* 2010). The majority of degraded peatland is blanket bog with drainage for grazing as the main driver, while drainage for cropland is more restricted to lowland peat soils, and forestry planting with associated drainage has occurred on around 2000 km² deep peat, mainly in Scotland. Drainage was subsidised with grants from 1940s-1980s in the drive to promote provisioning services, such as food and timber production. Grant aid and new drainage largely stopped before 1990 with policy reforms to safeguard the environment (Robinson, 1990; Condliffe 2009).

Table 2: Extent of organic-rich soils and peatland types in the UK (from Bain *et al.* 2011, adapted with permission from JNCC (2011))

	Soil map data		UK Biodiversity Action Plan data	
	Shallow peaty or organo-mineral soil [km ²]	Deep peaty or organic soil [km ²]	Bogs [km ²]	Fens* [km ²]
England	7,386	6,799	2,727	80
Wales	3,592	706	718	62
Northern Ireland	1,417	2,064	1,609	30
Scotland	34,612	17,269	17,720	86
Total area	47,007	26,838	22,775	258
UK area cover	19.30%	11.00%	9.35%	0.11%

* Current best estimates of fen habitat, but actual area may be much larger (Peter Jones, CCW, pers. comm.)

Within the UK, peatlands represent the single most important terrestrial carbon store with deep peat bogs containing over 3,200 ± 300 M t of carbon (Billett *et al.* 2010; Worrall *et al.* 2011a),

approximately twenty times that of UK forests. This store can only be maintained if peatlands remain wet, or are rewetted. Damaged UK peatlands are currently estimated to be releasing almost 3.7 M t CO₂eq each year (Worrall *et al.* 2011a). This is equivalent to the average emissions of around 660,000 UK households, and may increase with ongoing climate change in the absence of restoration (Bain *et al.* 2011).

2.2 Mitigation potential of UK peatland restoration

Of the 2.7 M ha deep peat soils in the UK, it is estimated that 1.8 M ha are available for restoration (Bain *et al.*, 2011). Securing the IUCN UK Peatland Programme target of 1 million ha of peatland under rewetting and restoration management would meet the UK Biodiversity Action Plan targets for blanket and raised bog restoration (845,000 ha) (Bonn *et al.*, under review).

Depending on the initial condition and form of peatland restoration high GHG emission reductions can be achieved (Artz *et al.* 2012). Especially on bare peat sites, restoration may provide very high GHG emission reductions within 2-4 years, when re-vegetation rapidly limits erosion losses (POC) and re-instates primary productivity and CO₂ uptake (Waddington *et al.* 2010; Worrall *et al.* 2011b). However near-natural conditions, and the subsequent re-initiation of peat formation, may take decades to establish on these heavily modified sites. Restoration on moderately damaged peatlands with grip blocking may lead to less dramatic reductions in carbon losses through reduced decomposition rates, but stable peat forming conditions may re-establish more quickly (Komulainen *et al.* 1999; Artz *et al.* 2012). As noted above, CH₄ emissions may peak in the years immediately following restoration, but this effect can be minimised by effective restoration techniques, such as encouraging *Sphagnum* growth and limiting flooding. Figure 1 illustrates the carbon gains over time with emission reductions from a drained bog after grip blocking within the first 10 years of 2.5t CO₂ eq ha⁻¹ yr⁻¹ and further emission savings, when carbon fluxes are re-instated to near natural conditions at 3.1t CO₂eq ha⁻¹ yr⁻¹.

UK peatland restoration therefore could provide an abatement potential of 2.5 M t CO₂eq per year if the goal of 1M ha restoration could be realised, using the conservative estimate of 2.5 t CO₂eq ha⁻¹ yr⁻¹ emission reductions through restoration. This would equate to the one year's worth of GHG reductions (1% annual reductions), which need to be made from now to reach the UK climate change target for 2027 (Bonn *et al.*, under review).

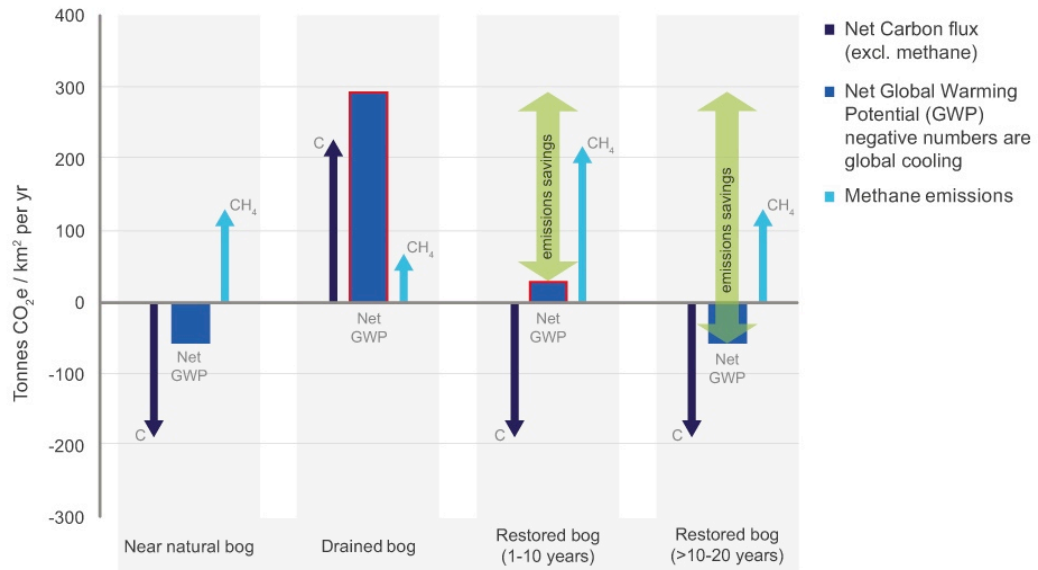


Figure 1: Indicative Global Warming Potential (GWP) of UK blanket bogs under natural, drained and rewetted state. Re-wetting results in at least 2.5 t CO₂e savings per ha per year. Figures are illustrative, using conservative estimates; based on Silvola *et al.* 1996; Byrne *et al.* 2004; Wallage *et al.* 2006; Holden *et al.* 2007; Minkinen *et al.* 2007; MacNamara *et al.* 2008; Billett *et al.* 2010; Worrall *et al.* 2010b; Couwenberg *et al.* 2011; Worrall *et al.* 2011, cited in Bain *et al.* 2011 (figure reproduced with permission from Bain *et al.*, 2011).

It should be noted that peatlands are vulnerable to climate change. With rising temperatures, areas of peatland in England and Wales and the south of Scotland will become less suitable for peat formation (Gallego-Sala 2010). Increased temperatures could dry out peat soils, and reduce water tables, leading to the oxidization of the peat into carbon dioxide and putting peat soils at greater risk from wildfire, while more heavy rainfall events could increase erosion on already damaged peatlands (Marsden and Ebmeier, 2012). Having said this, it is difficult to predict specific changes in particular peatlands, given the scales at which most climate models operate, and the challenges of downscaling these models (Marsden and Ebmeier, 2012). These effects are anticipated to be greatest in peatlands that have already been degraded, and it is expected that pristine (and restored) bogs are likely to be more resilient to changes in temperature (Clark *et al.* 2010).

2.3 Measuring changes in peatland GHG emissions after restoration

The Intergovernmental Panel on Climate Change (IPCC) is currently preparing additional guidance on how to assess and report on emissions from organic soils and wetlands, including the rewetting of peatland. This will involve providing default GHG emission figures associated with changing water levels, and other activities on peatland. This supplementary guidance is expected to be available in October 2013 (IPCC 2011), and should form the basis for any future peatland GHG accounting under the UNFCCC and its Kyoto Protocol in the UK (assuming it decides to include it in the GHG inventory) and elsewhere.

To quantify emission reductions, data on GHG emissions with and without peatland restoration are needed. The IPCC provides three tiers of methods for measuring GHG emissions: 'tier 1' methods are simple methods based on default values for different land uses etc.; 'tier 2' methods are similar, but include country-specific emissions factors and other data; and 'tier 3' methods are more complex, often model-based approaches. The IPCC Guidelines provide typical default 'Tier 1' emissions factors from organic soils for different land use categories, such as forest land, cropland and grassland (IPCC 2006). These Tier 1 emission factors could in theory be used for carbon payment schemes for peatland restoration. However, Tier 1 emission factors are designed to be applicable across global peatlands based on limited climate, soil and land-use data, and thus provide limited scope to reflect the specific conditions within individual countries. For example, temperate and boreal peats are differentiated only at the level of 'nutrient rich' (fen) and 'nutrient poor' (bog), without specific consideration of the (different) functioning of blanket bogs which predominate within the UK. Managed organic soils are assumed to be drained, whereas some modified UK blanket bogs may not be (e.g. those under burn management for game, or eroded by wildfire, overgrazing and/or air pollution). Therefore it is likely that to achieve reliable emission reduction estimates over time at the national level, UK peatland carbon markets would need to apply a Tier 2 approach (using country-specific emission factors and peat and land use types), or a Tier 3 approach (using more detailed, dynamic accounting methods or modelled data).

While methods and demonstration sites for monitoring complete carbon budgets (including sinks and sources from all fluvial and gaseous pathways) from UK peatlands are available (Billett *et al.* 2010), measuring emissions from individual peatland sites can be challenging and expensive. Although Tier 3 processed-based models are less expensive than empirical measurements of GHG emissions savings, they still require empirical measurements to calibrate models to new sites, and to validate model outputs. There is therefore a need for more cost-effective proxy variables for assessing carbon fluxes are needed (a type of Tier 2 approach). Most GHG emissions from peatlands are closely correlated with the water table, either directly or indirectly via the effects of water table levels (in semi-natural ecosystems) on species assemblage. These functional relationships have underpinned the development of the *Greenhouse gas Estimation Site Types* (GEST) approach for continental Europe, which provides proxy measures for GHG emission from peatlands (Couwenberg *et al.* 2011). Couwenberg and co-authors developed a matrix system that classifies vegetation assemblages, according to their relationship with water table levels and the presence of aerenchymous species, whilst also considering nutrient status, pH and land use into GESTs. The GEST approach allows for a rapid baseline assessment of GHG fluxes from peatland sites in their current state and offers more detailed assessments than current IPCC default values (Couwenberg 2011). A carbon accounting methodology for peatland rewetting projects based on the GEST approach has been recently developed (O'Sullivan & Emmer 2011) and approved by the Verified Carbon Standard (www.v-c-s.org) to enable peatlands to be restored via international voluntary carbon markets. A similar, parallel development in the UK, focusing directly on ecosystem function and GHG flux pathways (and less on water table levels, which are less useful as a proxy for rain-fed blanket bogs), has led to the development of Standard Emissions Values for different blanket bog states (Birnie and Smyth, 2013).

3. Policy and Market Background

3.1 International climate change policy and peatlands

The United Nations Framework Convention on Climate Change (UNFCCC) is the international process that provides a regulatory framework for action to reduce GHG emissions. Under this treaty, the Kyoto Protocol sets mandatory emission limits and reduction targets for developed nations, including the UK, for the first commitment period 2008-2012 and the second commitment period which runs from 1 January 2013 to 31 December 2020, and defines which activities have to be accounted for as emission or removal. For the first commitment period, the Kyoto Protocol and relevant delegated legislation prescribed that countries must account for emissions and removals from afforestation, reforestation and deforestation (in line with Article 3.3) and allowed for accounting for forest management, cropland management, grazing land management and re-vegetation on a voluntary basis (in line with Article 3.4). At COP17, parties to the convention agreed to recognize *Wetland Drainage and Rewetting* (WDR) as a specific new activity under Article 3.4 of the Kyoto Protocol, which may be accounted for on a voluntary basis during the second commitment period. This is an important decision, giving further legitimacy to peatland restoration as a climate mitigation activity. As a voluntary activity, it is for individual Governments to decide whether to incorporate this activity from 2013 onwards in their international GHG accounting. Emission reductions from any restoration carried out since 1990 may be accounted for. In return, any new drainage undertaken since 1990 will also have to be taken into account. In the UK most drainage of peatlands took place prior to the mid 1980s and subsequently declined as a result of changes in forestry and agriculture policy in support of peatlands (Robinson, 1990; Condliffe 2009). Therefore, the main impact of adopting the new category for the UK (or if the UK were to account for grazing land management, given that most peatlands could be classified as grasslands) would be to allow peatland restoration projects to contribute to meeting the country's climate change targets (Bonn *et al.*, under review).

3.2 The market for peatland restoration

3.2.1 Types of market

As evidence of the impacts of peatland degradation have become clearer, interest has grown in the potential to stimulate private investment for peatland restoration through carbon markets (Worrall *et al.* 2009). There are several potential options for funding peatland restoration outlined in Figure 2. Broadly speaking, they differ in the extent to which: i) they pay solely for carbon and climate mitigation benefits, or pay for a wider range of ecosystem services derived from restoration; ii) they are publically versus privately funded; and iii) they are international or regional in scope (Bonn *et al.*, under review). The compliance carbon market (established via the Kyoto Protocol) is an example of an international, part-public funded and part-private funded mechanism, primarily for climate mitigation, though co-benefits are included (particularly in Clean Development Mechanisms projects). International voluntary carbon markets and regional carbon markets (such as MoorFutures) are examples of private funding of primarily climate mitigation benefits, but generally with a greater emphasis on co-benefits than the compliance market. Regional carbon markets may be national or regional in scope, and typically target primarily national or regional investors to contribute towards local restoration schemes (although they do not necessarily preclude

international investment). Although they develop their own regional standards, they may draw on and adapt existing standards from the international voluntary carbon market. Finally, agri-environment schemes across Europe are national schemes channelling public funding from the EU into peatland restoration. They are justified on the basis of paying for the fullest possible range of ecosystem service benefits.

Formal ‘compliance’ carbon markets under the Kyoto Protocol based on its flexibility mechanisms (Emissions Trading, Joint Implementation, and Clean Development Mechanism) currently do not apply to land use projects in the UK. Changes would be necessary to: i) UK legislation to allow projects to become part of the Joint Implementation scheme under the UNFCCC and ii) the EU’s Emissions Trading Scheme to allow companies to use credits from land use activities to meet compliance requirements (Bonn *et al.*, under review). This is therefore not a viable option for UK peatland carbon schemes in the short term.

The global voluntary carbon market was valued at \$569 million in 2011, which is significantly smaller in value compared to the compliance market with a value of \$149 billion in 2011 (Kossoy & Guigon 2012). Currently, however, in practical terms, the voluntary market is the only market that can provide direct finance to peatland projects (Joosten *et al.* 2012). Peatlands are already eligible under existing standards for the voluntary market, i.e. the Verified Carbon Standard (VCS <http://www.v-c-s.org/>) and the Climate Community and Biodiversity Standard (CCBS <http://www.climate-standards.org/>). The VCS is most commonly used to provide general standards for land-based climate change mitigation projects, and can now be used also to verify changes in carbon stocks resulting from peatland restoration projects. In 2012, the VCS programme approved a new set of *Wetland Restoration and Conservation* (WRC) requirements fully in-line with all other Agriculture, Forestry and Other Land Use (AFOLU) activities. A new AFOLU category – the *Rewetting of Drained Peatlands* (RDP), as sub-category of Restoration of Wetland Ecosystems (RWE) – is now part of the standard. Accreditation via the VCS, however, can be very costly (due to the need for independent verification by two qualified parties) and is typically only feasible financially for large-scale projects or big investors.

For this reason, regional carbon markets are emerging, with their own standards (often based on VCS guidance), which are sufficiently rigorous for investors, but that are more cost-effective to implement than VCS standards. Such regional schemes also have the advantage of being tailored to the specific regional context, which may enable them to offer more rigorous standards. For example, regional schemes are more likely to be able to verify GHG emission reductions on the basis of empirical or modelled measurements rather than using IPCC default values, and may be able to better identify potential trade-offs with other ecosystem services provided by the project area (see Box 1 for an example from Germany).

There is growing interest in extending this approach to develop a regional market for peatland restoration in the UK. The UK Government is supporting companies and businesses, who wish to register their own corporate GHG emissions, and such reporting is mandatory for large companies. At present, peatland restoration is not yet included in the Government’s guidance on corporate GHG reporting (the Defra/DECC Greenhouse Gas Accounting Guidelines). However, it may be possible to add an annex that would allow

companies to invest in peatland restoration as part of their efforts to become carbon neutral under these guidelines in future. This may occur in the short-term (e.g. 2-5 years from now) compared to the much longer-term prospect of trading on voluntary carbon markets (more likely at least 10-20 years from now, based on Government and independent projections of likely future carbon prices).

Box 1: MoorFutures Standard

The MoorFutures standard, for example, was launched in 2011 to support restoration in a particular region of Germany, the federal state of Mecklenburg-Vorpommern (MLUV 2009). The MoorFutures Standard has been developed based on the Verified Carbon Standard (VCS) *Wetland Restoration and Conservation (WRC)* guidance (see above). While applying the VCS methodology would be too expensive in Mecklenburg-Vorpommern, as sites are relatively small, the *Moorfuture Standard* has been developed to suit specific regional conditions and is therefore more cost efficient to implement. Additionality of MoorFutures is secured as restoration projects can only be realised through the finance generated through the *MoorFuture* credits. To allow for transparency and to avoid double counting Moorfuture credits are retired (see glossary) and recorded in a federal state registry with a specific series number. Using the series number investors and their customers can easily establish how many emission reductions have been retired, and this state registry can also be incorporated in business communication strategies. Moorfuture credits are based on realistic estimates of emissions before and after rewetting using the GEST approach (see section 2.3). Measuring gas fluxes at demonstration sites for these site types ensures that emission data are open to scrutiny and verifiable. To estimate emission reductions, the MoorFutures use a forward looking baseline (see glossary for definition), i.e. the results of a 'with project' scenario are compared with the reference scenario that would have occurred without implementation of the project. Reductions in N₂O emissions with rewetting are not included, and potential depletion of peat in the baseline is taken into account, i.e. emission reductions for areas with thin peat layers are only calculated as long as they would not have been exhausted by continued decomposition without rewetting. MoorFutures ensures permanence of GHG emission removals through requirements for project design, longevity of legal constructions and the assessment of non-permanence risk factors. In such a manner, the permanence of MoorFutures is guaranteed through a) prescribed water levels under the Water Law, b) entries in the land register to secure permanence of the required water levels and/or c) the purchase of land for restoration through the 'Stiftung Umwelt- und Naturschutz Mecklenburg-Vorpommern' trust that can guarantee the long-term maintenance of project sites.

3.2.2 Market research

To investigate demand from business for peatland restoration in the UK, Appendix 3 presents the results of interviewing representatives from a sample of 15 businesses across a broad range of sectors that were either currently investing in land-based carbon projects, or had the potential to do so (there was a focus on the corporate sector, but three interviews were conducted with small to medium enterprises (SMEs)). Broadly speaking, there were two types of investors: i) multi-nationals with UK brand identity, and a substantial UK customer and/or employee base in relatively close proximity to peatland restoration sites who wish to build brand awareness and loyalty; and ii) SMEs with brand or product lines linked to peatlands e.g. food and drink, hospitality/tourism. Many multi-nationals were interested in the possibility of using peatland carbon for future carbon trading and corporate carbon accounting. However, for corporations with large emissions, the co-benefits of peatland restoration were more important than the climate benefits per se, as these would only ever represent a very small fraction of their overall emissions profile. Similarly, SMEs were more interested in the full range of benefits arising from peatland restoration that they could use to help market specific products, rather than being narrowly focussed on the climate benefits. Having said this, all respondents were particularly interested in the carbon benefits, and wanted rigorous quantification of these benefits. This was followed by interests in biodiversity, followed by water quality benefits (especially for companies with large water usage). However, given the likely additional costs of quantifying these co-benefits, respondents were content for them to be vouched for by an expert panel or a well-known NGO who they would trust to deliver such benefits.

Sectors with particular interest in financing peatland restoration included:

- food & drink (marketing brands and product lines linked to peat/uplands e.g. fell bred lamb, spring water products, whisky etc.);
- hospitality/tourism linked primarily to upland peats;
- energy (compensating damage from infrastructure development);
- water (capturing the carbon benefits of restoration being undertaken for water quality benefits); and
- horticulture (in particular enhancing peat-free compost brands).

Respondents were generally prepared to pay a premium for UK projects that could provide multiple-benefits in addition to climate change mitigation. There was no desire to see a fixed price for carbon in peatland restoration projects; rather respondents expected pricing to reflect the location and range of co-benefits that they could link to different product lines.

4. UK Peatland Code Development

A draft UK Peatland Code was published in June 2013 via the IUCN's UK Peatland Programme website. Public feedback was sought online and via a workshop in London. A Steering Group for the Code was constituted and met for the first time in August 2013, with representatives from each of the UK's Devolved Administrations, Defra, NGOs and the business community. A pilot phase Peatland Code was launched in September 2013. The remainder of this section provides an overview of the UK Peatland Code, describing its key goals and the mechanisms that have been designed to meet these goals. Then, drawing on the Code, it provides a more detailed description of how a number of key issues have been dealt with in the Code, including additionality, permanence, monitoring and accounting for the co-benefits of restoration. The full UK Peatland Code can be found in Appendix 1, and responses to public feedback on the draft Code can be found in Appendix 2. The Code is also available online at: <http://www.iucn-uk-peatlandprogramme.org/peatland-code>.

4.1 Overview

The UK Peatland Code is designed to provide an open, credible and verifiable basis for business sponsorship of specific pilot projects undertaking UK peatland restoration. The Code assures that restoration delivers tangible climate change mitigation benefits, alongside other environmental benefits. At this stage the pilot phase Code is designed to facilitate business sponsorship² motivated by corporate social responsibility; it is not currently intended for use in formal offset³ schemes, corporate carbon reporting or to be traded on international carbon markets. The Code does provide guidance on quantifying climate and other benefits, to reinforce the value of the sponsoring restoration, and it may be possible to count these benefits in corporate carbon accounts in future if Government guidelines allow. It may also be possible to trade this carbon on carbon markets in future via additional verification to accepted international standards. However, these options are not included in the pilot phase of the Code.

The aim of the pilot phase is to encourage early sponsorship of peatland restoration to help demonstrate peatland benefits and build an increasingly robust evidence base and methodology for future phases of Code development. Lasting 18 months, the pilot phase will focus on further developing the infrastructure for the Code, including:

- testing and refining proxy models for carbon monitoring and developing a standardised field protocol for vegetation monitoring;

² Sponsorship in the context of this Code refers to payments that are made in return for the provision of ecosystem services, principally climate change mitigation, which is quantified, with likely co-benefits for biodiversity and water quality captured in an environmental statement, based on relevant evidence. During Phase 1 of the Code, there is no option to trade carbon credits to obtain a financial return on investment. However, it is expected that sponsors will be using the ecosystem services they sponsor to balance against their own business activities in some form, for example incentivising sales of a certain product by using a portion of the sale price to restore peatlands. Sponsors will need to be clear therefore that the ecosystem services, once used in this way, cannot be banked for future re-sale, and it may not be possible to re-use them in any subsequent carbon trading regime

³ Schemes that generate tradable carbon credits that can be used to offset the emissions of sponsors

- developing evidence-based financial analysis of the various life-cycle costs associated with investing in peatland restoration; and
- work with the UK Accreditation Service and existing third-party UKAS-accredited auditors to develop protocols to assess and accredit auditors and projects under the Peatland Code.

The goal is to eventually develop a registry for Peatland Code projects to issue and record ownership and transfers of GHG emission reduction credits and their subsequent retirement, cancellation or suspension under different circumstances.

The pilot phase of the Peatland Code is focusing on businesses who wish to undertake corporate social responsibility (CSR) activities that have tangible outcomes. Climate benefits cannot be used in formal corporate carbon reporting or be traded on international carbon markets, although the potential exists for these activities to be incorporated in the future. Sponsorship is sought from businesses to cover the full costs of restoration, including ongoing costs for land managers to maintain sites in good condition. Costs will vary from site to site, for example depending on the type of peatland, level of damage or accessibility, providing sponsors with a range of opportunities in different locations with different levels and types of benefits to suit their branding and CSR needs.

The Peatland Code sets out principles, requirements and guidance for the eligibility of projects, how projects are governed and documented, and how the climate and other benefits of restoration should be monitored:

- Projects must be **eligible** in terms of timing, type of activity undertaken, land ownership and tenure rights, compliance with relevant legislation, and demonstrate that they would not have otherwise occurred without finance via the Code;
- Projects need an **effective and transparent governance** structure with clear lines of accountability to enable cost-effective verification, and to build confidence with stakeholders. This will ensure that carbon benefits are not double-counted, risks are adequately managed to sustain the carbon stored by the restored peatland, and relevant stakeholders are consulted about proposed projects;
- Projects need to be **clearly documented**. Effective reporting will thus ensure that all aspects of project design are laid out, there are effective management plans to deliver projects, and claims about carbon are clear, conservative and accurate; and
- Projects need to make provision for **effective monitoring**, capable of providing up-to-date information on the project's progress towards climate mitigation goals. Projects need to be of high environmental quality, taking into account the wider impacts on ecosystems to ensure that no harm is done by the project and, whenever possible, that wider benefits are created.

4.2 Approach to additionality

The Code sets out a number of criteria that need to be met in order for a project to demonstrate its ‘additionality’ i.e. that without sponsorship, the peatland restoration project would not otherwise have occurred without sponsorship:

- **Legal Test:** the project would not be considered additional if there is a pre-existing legal order specifying that peatland should be restored (e.g. planning conditions). Restoration is considered additional on sites with conservation designations (e.g. Sites of Special Scientific Interest and Natura 2000 sites), where there are objectives to restore peatland, but where sufficient finance has hitherto been unavailable to achieve these objectives (whether privately or via agri-environment schemes), and where there are no statutory orders requiring action e.g. nature conservation orders under legislative Acts;
- **Contribution of Carbon Finance Test:** an initial threshold for the contribution of private sponsorship towards the costs of peatland restoration has been set at 15% of project costs, to allow future flexibility. Projects receiving grant aid under a government-funded initiative (e.g. agri-environment schemes such as Entry Level Stewardship or Higher Level Stewardship) are eligible provided at least 15% of the project costs are from private sources (and other additionality tests are met). Although agri-environment funding can only cover the costs of restoration and income foregone, it is possible for private finance to contribute towards other costs to make the project viable, for example including ongoing maintenance and monitoring; and
- **Barrier test:** Existing barriers to the implementation of the project have been overcome. Barriers could be social, economic or environmental. Barriers to peatland restoration may include: lack of community buy-in; inaccessibility; lack of skilled labour and inputs; and insufficient finance to meet up-front costs.

4.3 Approach to permanence

Permanence describes the issue of ensuring GHG emission reductions are permanent, and not reversed at a future point in time. Peatland projects carry a risk of reversibility if management interventions undertaken as part of a project are reversed in future, and as such safeguards must be in place to minimise that risk, and to guarantee replacement or compensatory peatland restoration should a reversal occur. The Code proposes that risk management is built in at every stage of project design, with the size of the risk buffer (see glossary for definition) being determined using a risk assessment. These risks may include:

- **Internal risks to the project,** such as: project management risks (e.g. lack of qualified personnel to undertake the restoration work, issues over enforcing property rights, and inappropriate selection of management techniques); and financial risks (e.g. lack of sufficient funds to meet all project costs or significant opportunity costs);
- **External risks to the project,** such as: land tenure and resource access, and the threat that competing uses of land can have to the restoration project (e.g. public access may cause erosion and peatland degradation); lack of community ‘buy-in’ to the project; and negative impacts on adjacent land-holdings; the impact of changing land use e.g. tree planting or drainage on adjacent land within the same hydrological

unit; the impact of fencing to exclude deer, resulting in changed patterns of movement which may affect a restoration site; and changes in rates of atmospheric deposition of pollutants leading to habitat damage and change in species composition

- Natural risks to the project, such as: wildfire; pest and disease outbreaks among peat-forming plant species; extreme weather; climate change; and geological risk including slope-failure, mass movements/peat slides.

Each project is required to undertake a risk assessment in line with these criteria. Projects that are deemed at greater risk than others are required to put in place a larger “GHG emission reduction buffer”. For example, projects where risks of drought and wildfire are greatest (due to predicted climate change and visitor numbers) are likely to require larger buffers than many more remote sites. The buffer is defined in the Code as ‘a pool of unclaimed GHG emission reductions’ to cover either uncertainty in GHG measurement or unavoidable potential losses which may occur from the project over time, thus ensuring the permanence of GHG emission reductions.

The Code recommends that risks should be re-assessed within 5 years of validation (see glossary for definition) and thereafter at 10 yearly intervals (when monitoring is conducted), and buffer sizes adjusted accordingly. To ensure permanence, buffers may be shared between different projects at the discretion of the accrediting body. In this way, GHG emission reductions may be taken from projects that achieve more GHG emission reductions than they intended, whose buffer size is reduced at mid-term review or who do not require their buffer. These emission reductions may be given to projects that need to increase the size of their buffer, fail to realise intended GHG emission reductions or that lose GHG emission reductions, for example due to catastrophic events.

4.4 Monitoring

The Code recommends that monitoring and verification of GHG emission reductions (see glossary for definition) takes place in the first year following restoration (to demonstrate that the work has been done), at some point 1-5 years after validation, and thereafter at periods of 10 years (or less). Monitoring is a necessary step to assess how successful restoration and management activities have been in achieving objectives, goals or targets. For each ecosystem attribute, a clearly defined set of objectives for particular time periods need to be established.

Verification of the climate benefits of restoration should be undertaken by an accredited body and will assess the GHG balance of the peatlands after restoration, projected to the end of the contract period, compared to the baseline (reference) scenario. The verification will also ensure that the peatland is being managed in accordance with best practice according to guidance that is being prepared as part of the pilot phase.

Although it is expected that most projects will do this through vegetation proxies using the GEST approach (see section 2.3), projects may also opt for (more expensive, but more accurate) direct empirical measurements (following an appropriately designed sampling

strategy, with sufficient sample density and time intervals, reporting at least every 10 years, to represent changes across the site) using eddy covariance techniques (via flux towers) or closed chamber methods. This may be possible in site that are already instrumented for such measurements.

Changes to the reference condition should be monitored through tracking the GHG flux measurements or tracking changes in the vegetation proxies and the condition of the peatland. GHG emissions from drained peat, litter and ground vegetation are estimated based on the presence of GESTs with calibrated GHG emission profiles. Preliminary GESTs for UK peatlands have been published by Natural England/Defra (Birnie and Smyth, 2013). These will be further tested and refined in pilot projects during the pilot phase of the Peatland Code, in order to develop a protocol that can be applied across all UK peatlands for future phases of the Code.

4.5 Co-benefits

Peatland restoration has a range of substantial co-benefits, including biodiversity gains, improved water quality, reduced wildfire risk, and aesthetic and accessibility benefits for recreation. As well as synergies with other ecosystem services, there are some risks that peatland restoration may lead to certain undesirable trade-offs, which may need to be minimised through proactive land management planning, either via mitigation measures or additional payments to compensate for lost income (e.g. where restoration requires reducing the intensity of livestock grazing). Basic peatland restoration can also provide a foundation for other biodiversity creation or restoration projects and, where this land management is additional to the peatland restoration such management could access other income streams.

For this reason, the Code recommends that projects set out the effects that they anticipate on as full a range of ecosystem services as possible and, where appropriate, include actions to enhance the co-benefits and/or minimise unnecessary trade-offs. Experience from the MoorFutures scheme in Germany, which is attempting to monetize co-benefits, and from public feedback on the draft UK Peatland Code, raised concerns about the costs of monitoring co-benefits in any detail. This was supported by market research (Appendix 3) that showed likely sponsors would be happy with broad assurances based on their trust in the bodies delivering restoration, and did not require rigorous monitoring of co-benefits. Therefore, the Code encourages detailed monitoring of co-benefits wherever possible, but where this is not possible, the Code suggests that projects may create a narrative based on published evidence and include this in their Environmental Statement. This is designed to provide sponsors with information about the likely co-benefits in a particular site, on the basis of credible evidence, but without requiring expensive ongoing monitoring.

5. Discussion and conclusions

Society values the natural environment for climate regulation, provision of clean water and recreational/health benefits, and yet society does not typically pay land managers to provide many of these benefits, leading to management for short to medium term direct benefits that sometimes leads to environmental degradation. Broadly speaking there are four types of policy instrument available to resolve this conflict of interests: information provision and capacity building; regulation; financial mechanisms e.g. taxes and incentives; and the creation of new markets to pay for ecosystem services (Reed *et al.*, 2011; Whitfield *et al.*, 2012). A mix of most of these instruments is already being used in the UK. This includes growing interest in the creation of new markets to facilitate private investment in the provision of ecosystem services. In particular, the 2011 Natural Environment White Paper emphasised the creation of new markets to pay for ecosystem services. This led to the formation of an Ecosystem Markets Taskforce, to identify business opportunities in the natural environment which recommended the development of a peatland code in its report published in March 2013. In May 2013, Defra published its Payment for Ecosystem Service Action Plan which committed to supporting the development, testing and launch in partnership with the IUCN of a pilot UK Peatland Code later in 2013.

UK peatlands are a relevant place to explore the potential to pay for ecosystem services. Peatlands provide a particularly wide range of ecosystem services to UK and global society that are not widely or fully paid for via agricultural payments or by markets. Peatlands are the UK's most significant carbon store. In addition to regulating the climate, peatlands provide many other important services to UK society including the provision of drinking water, habitats for internationally important species and recreation. However according to the International Union for Conservation of Nature (IUCN) UK Peatland Programme's Commission of Inquiry on Peatlands, around 80% of UK peatlands are degraded. Investing in conserving and restoring them is therefore a key tool to help deliver the UK's climate change obligations, whilst helping meet other national and international obligations on biodiversity and water quality.

The idea of paying for ecosystem services is not without controversy however. Some have argued that it is morally wrong to put a price-tag on nature, and that the Government is seeking to privatize nature in an attempt to fix a problem that was caused by our capitalist system under-valuing nature (Monbiot, 2012). Others point to social justice concerns relating to the inequitable distribution of payments to primarily large landowners (e.g. Wittman and Caron, 2009; McAfee, 2012), or highlight unintended consequences of PES schemes that paid for the provision of certain ecosystem services (e.g. forestry and agriculture) at the expense of others that were harder to monetize and market (e.g. biodiversity and aesthetics) (e.g. Kronenberg and Hubacek, 2013),.

These issues are not easy to tackle. However the research and development of the pilot UK Peatland Code can offer a number of insights into the operationalization of new markets for

ecosystem services, which may be of relevance to other habitats and ecosystems in the UK, and to the development of new PES schemes internationally:

- **PES schemes in practice do not “put a price tag on nature” and are not inconsistent with protecting nature for its intrinsic value.** In the same way that society puts a value on the services people provide to the economy and put an economic value on a healthy workforce without putting a value on a human life, there is no contradiction in believing in the intrinsic value of nature, whilst valuing the services it provides, in particular protection, restoration or enhancement of those services. Society invests in public health programmes primarily because we value human life, but it also makes economic sense to have a healthy workforce. In the same way, it is possible to invest in nature conservation primarily because we intrinsically value non-human life, but as this research has demonstrated, there is also a strong case that healthy ecosystems bring many benefits to our economy and society, that the private sector is willing to pay for. Rather than “putting a price on nature”, the Code is intended to facilitate the discovery and expression of some of the formerly overlooked benefits provided by nature from peatlands, that investors may now ascribe tangible value to, via investing in restoration
- **Market research demonstrates that there is an appetite for Corporate Social Responsibility sponsorship of peatland restoration projects in the UK, with companies prepared to pay a premium for projects connected to their business that could deliver multiple benefits:**
 - Broadly speaking, two types of potential investors emerged from this analysis: i) multi-nationals with UK brand identity, and a substantial UK customer and/or employee base in relatively close proximity to peatland restoration sites who wish to build brand awareness & loyalty. This group was more interested in possibility of future trading/accounting, though for those with large emissions, the co-benefits were more important; and ii) Small and Medium-sized Enterprises (SMEs) with brand or product lines linked to peatlands e.g. food and drink, hospitality/tourism. This group were more interested in the full range of benefits from peatland restoration to help market products
 - Sectors with particular interests in peatland restoration included: i) food & drink (marketing brands and product lines linked to peat/uplands e.g. fell bred lamb, spring water products, whiskey etc.); ii) hospitality/tourism linked to uplands; iii) energy (compensating damage from infrastructure on peatlands); iv) water (capturing the carbon benefits of work for carried out primarily for water quality benefits); and v) horticulture (enhancing peat-free brands)
 - Companies interviewed for this research were primarily interested in the carbon benefits of peatland restoration, and wanted rigorous quantification of this benefit. However they were also interested in particular in biodiversity, followed by water quality (especially water utilities and companies with large water usage). Interviewees were content for these co-

- benefits to be vouched for by an expert panel or to be delivered via a well-known NGO that they trust
- The companies interviewed were generally prepared to pay a premium for UK projects that could deliver multiple-benefits. They were content to see bespoke pricing of projects to reflect the location and range of co-benefits that might link to different product lines. The key price differential was between UK peatland restoration schemes and non-UK multiple benefit schemes (rather than other UK land-based projects)
 - More broadly, a **number of more generally applicable benefits or motivations for business to engage with PES schemes may be inferred from this research**, for example:
 - For some business sectors, investing in PES schemes can help reduce costs e.g. water intensive industries or business that require high water quality such as water utilities and drinks manufacturers
 - For some companies, PES may be an opportunity to meet environmental obligations (e.g. corporate carbon accounting)
 - PES can demonstrate corporate responsibility towards the natural environment (where this includes climate mitigation benefits, it may in some cases be possible to classify these investments as assets, given their potential value on carbon markets, although this is complicated by resource ownership issues)
 - Some businesses may be able to use PES schemes to market specific product lines linked to particular habitats or services, or at least promote 'cause-related marketing'
 - **To avoid unintended consequences and provide investors with the necessary confidence, PES markets need appropriate guidance, frameworks and monitoring.** Such guidance needs to ensure that: benefits are new and would not otherwise have occurred ('additionality'); benefits are not lost or reversed in future; the PES scheme does not result in 'leakage' wherein damaging activities are simply transferred elsewhere; benefits are appropriately monitored and quantified; and payments for one ecosystem service do not lead to trade-offs with other ecosystem services that are currently outside the market. Section 4 of this report describes how each of these issues has been tackled in the development of the UK Peatland Code
 - **It is likely that codes of practice will need to be developed on a habitat-by-habitat basis.** If there is a proliferation of guidance for different habitats (or services) in future, there may be a role for Government to ensure standardisation of approaches and co-ordinate between schemes. For example, it may be possible to develop a combined code for land-based carbon. The development of the UK Peatland Code has shown that there are a number of important differences between the guidance, frameworks and monitoring required for peatlands compared to woodlands (or indeed other habitats). Although much of the initial framework for the Peatland Code was based on previous experience developing the Woodland Carbon Code, a large number of differences were required to develop the mechanisms required to facilitate markets for peatland restoration. Apart from obvious changes around the

definition of peatlands and eligible restoration activities etc., a number of more substantial differences emerged between the two Codes, for example:

- Monitoring requirements are particularly different, given the nature of the climate benefits arising from peatland restoration, which are as much about reducing GHG emissions from degraded bogs as they are about sequestering carbon in restored, active bogs. Rather than measuring changes in carbon stocks in peat soils, similar to the approach in the Woodland Carbon Code where changes in forest carbon stocks are measured, the Peatland Code measures changes in GHG fluxes, with a view to marketing net reductions in GHG emissions post-restoration
- Given the fact that so many degraded peat bogs are located within designated sites (e.g. SSSIs), the urgent need to get these sites back into favourable condition and the lack of funding to restore these sites, the Peatland Code considers the restoration of these sites as effectively additional, although in theory restoration should be occurring anyway to comply with the requirements of the designation
- Although a potentially controversial point, there was widespread support for this approach from public feedback. Given the fact that most peatland restoration projects would be unlikely to require an Environmental Impact Assessment, the Peatland Code explicitly requires project developers to consult those with tenure rights over the land proposed for the project (including those with rights of access, and an opportunity for the public to provide views), in addition to statutory conservation and water bodies, and make proposals to mitigate any negative impacts of the project on these rights holders
- Finally, given the wide range of additional benefits from peatland restoration (over and above the climate benefits) and evidence from the market research that investors are interested in these co-benefits, there is an additional section of the Peatland Code on the description of these benefits. Questions were asked about this in the market research, and there was significant debate over the benefits and challenges of quantifying co-benefits at the international expert workshop that was held as part of this research. Market research suggested that although biodiversity and water benefits were important to potential investors, there was little appetite among investors primarily interested in carbon for the accurate quantification of these co-benefits, especially if this increased costs substantially. Rather, investors were content to trust more general descriptions and statements of broad benefits, for projects accredited under the Code, especially if restoration was carried out by well known environmental charities that they felt they could trust. The expert workshop also identified a number of challenges associated with monitoring biodiversity and water benefits from restoration, with a trade-off between costs and accuracy. Monitoring water quality and quantity typically requires up-front investment in often costly monitoring equipment, and although the capital costs associated with biodiversity monitoring are lower, there are

challenges deciding which species to monitor e.g. flagship species that can market the scheme, such as birds of prey versus indicator species (which may be less attractive to investors and their stakeholders) or a more comprehensive survey, which would be likely to indicate the gain of some species at the expense of other wetland/blanket bog specialist species (in some cases with a net loss of biodiversity, despite gains in species of conservation significance)

- **Landowners tend to favour less risky, short-term agreements to provide ecosystem services, but investors and Government need to ensure these benefits are secured for the long-term and not reversed. This may limit the range of sellers willing to enter PES schemes, making it hard to meet demand and target the most degraded sites.** A minimum contract period of 30 years has been stipulated in the Peatland Code, reflecting scientific evidence on the period of time over which GHG emission reductions are likely (taking account of the initial spike in methane production). However feedback suggests that this contract length is likely to be unattractive to many private landowners, due to: concerns about risks associated with the arrival of more profitable alternative land uses in future that may be precluded by these agreements; possible negative interactions with agri-environment payments; and possible negative effects on land prices if they wished to sell the land during the contract period. However, there are a number of environmental NGOs with significant land-holdings who would look favourably on these contract lengths (and in most cases would want to opt for longer contracts). Discussions with these NGOs has shown that there is sufficient land to secure restoration sites for the pilot phase of the Peatland Code. During the pilot, it will be possible to conduct financial modelling of restoration costs and benefits for projects using the Code, to provide private landowners with more detailed information about the financial risks of developing projects. It may also be possible to explore innovative contractual arrangements, for example akin to some that have emerged during the operation of the Woodland Carbon Code, where a 30 year contract may be agreed, but with only the first 10 years of payments accepted up-front, with prices for subsequent 10 year periods to be negotiated, depending on future carbon prices.
- **Engaging local stakeholders early on in the development process helps create the right conditions for PES schemes to develop successfully.** Techniques such as participatory mapping and modelling enable better understanding of different ecosystems services under a variety of scenarios, enabling trade-offs to be negotiated, and priorities agreed. Learning from work with South West Water (funded in parallel to this project with members of this project team), the Code provides a detailed typology of rights-holders who are likely to be affected by projects and stipulates a minimum consultation period of 8 weeks
- **There are a number of ways to avoid payments for one service (e.g. climate regulation or water quality) leading to trade-offs with other services that are harder to monetise and market (e.g. biodiversity or aesthetic benefits):**
 - One option is to create additional markets for as many of these additional services as possible, and run these in parallel and co-ordinated with each

other in the same landscape. The advantage of this approach is that these additional services would have to be effectively quantified by building monitoring costs into these projects, which would enable a programme co-ordinating parallel schemes to more accurately identify and manage trade-offs

- One alternative is to ‘bundle’ these co-benefits with the anchor service, which can then be marketed at a higher price, effectively paying for the co-benefits but without the need for such rigorous monitoring of co-benefits. This is the approach taken in the UK Peatland Code, which is effectively a ‘premium’ carbon product being sold to the Corporate Social Responsibility market. The Peatland Code, encourages monitoring of co-benefits where possible, but accepts that this is not financially viable for most projects, and so allows projects to create a narrative based on published evidence of the likely benefits of peatland restoration in their particular context, which is included in their Environmental Statement
- Another alternative approach is to integrate payments from the private sector via the Peatland Code with public payments for ecosystem services via agri-environment schemes. If this integration is possible, it may be possible to prioritise (what is likely to be a shrinking level of) public funding for agri-environment options that are hard to monetise and market, allowing the market to pay for options that have a market value.
- **Integration of private PES with public PES via agri-environmental schemes is technically feasible, and may lead to a number of potential benefits and challenges.** The Code allows for joint funding of peatland restoration from both private funding and agri-environment schemes. The detailed mechanisms for how this integration might be achieved in practice will be explored during the pilot phase of the Code’s operation. During discussions about the Peatland Code with the Welsh Government, it emerged that they have been given advice suggesting that the integration of public and private funding within agri-environment schemes is likely to be allowed under EU Common Agricultural Policy regulations. Such integration may address some of the social justice concerns that have been raised in the academic literature in relation to the distribution of funds from PES schemes to primarily larger landowners, at the expense of smaller landowners. If it were possible to distribute private PES funding via the national infrastructure that currently exists for making agricultural payments (i.e. via the Rural Development Programmes, RDPs), it may be possible to distribute funds more equitably. However, a more detailed investigation would be required to determine if this integration of funds from private PES and public funding via the RDPs were technically feasible and compatible with the needs of the market, given that investors often wish to target funding towards specific locations linked to their business or products. Further investigation could also explore the potential to enable private PES payments via the Code to run in parallel with RDP payments.
- The research has demonstrated that there is a strong interest in sponsoring peatland restoration from the private sector (notably from the food and drink sector, hospitality, whiskey and horticulture) and corporations are willing to pay a premium

for UK-based projects that deliver climate benefits alongside biodiversity and water benefits. More broadly, a **number of more generally applicable benefits or motivations for business to engage with PES schemes may be inferred from this research**, for example:

- For some business sectors, PES can help reduce costs e.g. water intensive industries or business that require high water quality such as water utilities and drinks manufacturers
- For some companies, PES may be an opportunity to meet environmental obligations (e.g. corporate carbon accounting)
- PES can demonstrate corporate responsibility towards the natural environment (where this includes climate mitigation benefits, it may in some cases be possible to classify these investments as assets, given their potential value on carbon markets)
- Some businesses can use PES schemes to market specific product lines linked to particular habitats or services (e.g. food and drink, hospitality/tourism)

Permanence can be achieved beyond the end of contracts for peatland restoration projects. The Code addresses the permanence (see glossary) issue legally through covenants placed on the land, and practically through a process of assessing and managing the risks of restoration being reversed. In England and Wales, it will soon be possible to use Conservation Covenants⁴ to allow long-term management agreements to follow any future sale of the property. In an update in August 2013, the Law Commission announced it would be going ahead with a draft timetable to legislation, and noted the strong demand expressed during the consultation for “providing assurance that conservation activity will be undertaken in return for payments for eco-system services”. In Scotland, a covenant would be secured from the current landowner not to part with ownership without securing a similar covenant with the new owner (or providing an equivalent area of new peatland restoration that is likely to secure a similar level of GHG abatement on a degraded but previously unrestored site). People will need to take advice on equivalent procedures in Northern Ireland. In addition to this, projects have to assess the risks that restoration may be reversed, minimise these risks and set aside a certain amount of their projected GHG emission savings as a ‘buffer’, so that projects can guarantee their emissions savings. Larger buffers are needed in higher risk sites, and the risks and buffers are re-assessed and altered as necessary throughout the project. Additional protection may be offered where sites have been restored effectively enough to warrant designation under UK or EU legislation, for example as Sites of Special Scientific Interest.

- **The UK is now widely perceived to be leading the PES agenda in Europe, and the UK Peatland Code has the potential to become a template for similar initiatives internationally.** The expertise developed through this pilot project may make it possible to develop markets for other habitats and ecosystem services in future, and for the UK to help other countries develop regional carbon markets for peatlands.

⁴ For more information see: lawcommission.justice.gov.uk/areas/conservation-covenants.htm.

The project has already been invited to present experience developing the UK Peatland Code to a conference organized by the German Federal Agency for Nature Conservation (BfN) in co-operation with the European Network of Heads of Nature Conservation Agencies (ENCA), and other opportunities are being explored by members of the project team.

In conclusion, the UK Peatland Code is a front-runner in the development of guidance, frameworks and monitoring to underpin the development of PES schemes in the UK. Experience from the development of the Peatland Code fed into the development of Defra's PES Best Practice Guidelines, which in turn informed the further development of the Code. The experience and expertise gained during this Pilot Project, combined with best practice guidance, may be used to extend PES to a range of habitats and ecosystem services across the UK and internationally. PES schemes are not without challenges. Some of these challenges are more conceptual in nature, for example questions around the neo-liberalisation of conservation policy and social justice. Other challenges are more practical, for example guaranteeing the permanence of GHG emission reductions and determining how private payments for ecosystem services may interface with public payments via agri-environment schemes. Although many of these challenges remain outstanding, the development of the UK Peatland Code has provided an opportunity to tackle a number of these conceptual and practical challenges. This has been successful enough for us to be able to launch a pilot phase of operation, in which it will be possible to further investigate and tackle the remaining challenges of successfully operating PES in UK peatlands.

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Glossary

Additionality – A project is ‘additional’ if it, and the activities supported by it, could not have happened without private sponsorship.

Baseline – The projected changes to carbon on the site if the project weren’t to go ahead (the ‘business as usual’ scenario). This is a reference projection to which the GHG emission reduction benefits of project activities can be compared over the project lifetime.

Buffer – A carbon pool of ‘unclaimed carbon’ to cover either uncertainty in carbon measurement or unavoidable potential losses which may occur from the project over time, thus ensuring the permanence of Greenhouse Gas emission reductions.

Carbon reporting involves a carbon owner or organisation formally reporting Greenhouse Gas emission reductions in accordance with Defra’s ‘Guidance on how to measure and report your greenhouse gas emissions’. This can only be done once, after a GHG emission reduction have been achieved, and implies that the tCO₂e reported has been ‘retired’ (i.e. it cannot be reported again). See **Carbon statement**.

Carbon statement – a statement of the GHG emission reductions a project has achieved to date. It can be restated by more than one party with an interest in a project. See **Carbon reporting**.

Carbon dioxide (CO₂) – A naturally occurring gas and by-product of burning fossil fuels or biomass, land-use changes and industrial processes. It is the principal anthropogenic (caused by human activity) greenhouse gas that affects the Earth’s climate.

Carbon offsetting – A way of compensating for greenhouse gas emissions by making an equivalent carbon dioxide saving elsewhere. In UK peatlands this may be done via voluntary carbon markets (e.g. under Verified Carbon Standard methodology for peatland rewetting).

Certification – Registration and assessment of a project against the criteria of the Code by an independent body accredited by UK Accreditation Service.

Climate change – Change or changes in the climate which can be directly or indirectly attributed to human activity (UNFCCC Article 1).

Co-benefits – additional ecosystem service benefits (e.g. biodiversity or water quality) arising from a scheme that is designed to pay for one ecosystem service (e.g. climate change mitigation)

Double-counting – Double-counting occurs when the same tonne of carbon dioxide is claimed by two separate entities, or when the same tonne of carbon dioxide is sold more than once.

Environmental Impact Assessment (EIA) – These regulations apply to many peatland restoration projects, which may require consent for the work from the relevant authority (e.g. Natural England) and submit an Environmental Statement as part of the application for consent.

Greenhouse gases (GHGs) – Greenhouse gases. The gases which are causing the warming of the Earth’s atmosphere that is leading to climate change. The Kyoto Protocol deals with 6 of these: carbon dioxide, hydrofluorocarbons, methane, nitrous oxide, perfluorocarbons and sulphur-hexafluoride. These contribute to the ‘greenhouse effect’.

Group Scheme – A group of projects that work together to gain certification. Such schemes are not eligible under the Pilot Phase of the Code.

Leakage – is GHG emissions outside the project boundary as a result of the project (e.g. displacement of agricultural activities might result in peatland degradation or intensification of use of non-degraded peatlands elsewhere).

Mitigation – Implementing activities or policies to reduce greenhouse gas emissions and/or enhance carbon storage.

Organic Soil – Soil which contains more than 50cm deep organic (or peat) surface horizon overlaying the mineral layer or rock.

Peatlands - land dominated by histosols (this definition is used because it does not require peatland vegetation, which is important for degraded sites that are to be restored). Following the UN Food & Agriculture Organisation definition, histosols must have an organic matter content > 20% in their upper horizon, and they should have an average depth > 40cm. Peatlands may be active (where peat is currently forming and accumulating) or inactive (lacking current peat formation). This soil may or may not be currently covered by peat forming vegetation such as *Sphagnum* moss. For the purposes of the Code, peatlands include sites where peat deposits have been lost due to human activities (e.g. previous peat extraction, human-induced peat slides, wildfire, severe erosion exacerbated by overgrazing, pollution, burning, or agricultural wastage of peat), but that can feasibly be safeguarded and/or restored to active building peat bog status.

Permanence – The issue of ensuring that removal of carbon dioxide from the atmosphere is permanent, and not reversed at a future point in time. Peatland projects carry a risk of reversibility and as such safeguards must be in place to minimise that risk and to guarantee replacement or compensatory peatland restoration should a reversal occur.

Project – individual woodland creation project under the same ownership and management. A project could encompass more than one site.

Project Design Document (PDD) – A document created by a project manager to describe how the project meets the requirements of the Code.

Project Duration – The time over which project activities are to be implemented, monitored and GHG emission reduction claims is to be claimed. Projects can be 30-100 years in duration.

Project Start Date – The date when restoration works begin.

Regional Carbon Market – a carbon market in which all sellers are based in the same geographical region, with region-specific guidance developed for buyers, sellers and intermediaries to provide the market with confidence that investments will lead to measurable and additional benefits. The majority of buyers are likely to come from the same region, but such schemes do not necessarily exclude international buyers. MoorFutures in Germany and the Peatland Code are examples of guidance developed to facilitate regional carbon markets.

The Register of UK Peatland Code Projects – the official record of the location of projects, the predicted and actual GHG emission reductions as well as the owners of that carbon.

Restoration – a process that returns the conditions necessary for long term retention of semi-natural vegetation cover, with its typical species and habitats, to damaged peatland, reducing or halting carbon loss and allows peat accumulation to take place again, over the long-term. Restoration management may range from slight adjustments, such as reducing grazing and managed burning levels, to more substantial works such as rewetting to elevate the average annual water table through ditch blocking in formerly drained sites, or stabilising peat through re-vegetation of bare eroding peat.

Retirement – when carbon credits are removed from the market, and can no longer be traded.

Validation – The initial evaluation of a project against the standards of the Peatland Code, undertaken by a certification body accredited by the UK Accreditation Service.

Verification – The ongoing evaluation of a project against the standards of the Peatland Code, undertaken by a certification body accredited by the UK Accreditation Service. Verification shall first take place within 5 years of validation and thereafter at periods of 10 years or less. It will assess the GHG emission reductions that have actually occurred as well as continuing sustainable peatland management according to good practice guidelines

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Appendices:

Appendix 1: UK Peatland Code

Appendix 2: Response to public feedback on draft Code

Appendix 3: Market Research Report

Appendix 4: Leaflet

Appendix 1: UK Peatland Code

PEATLANDC DE

Draft UK Peatland Code
September 2013



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Sphagnum tenellum © Andy Amphlett



1. Introduction

The UK Peatland Code is designed to provide an open, credible and verifiable basis for business sponsorship of specific pilot projects undertaking UK peatland restoration. The Code will assure that restoration delivers tangible climate change mitigation benefits, alongside other services, such as providing habitats for vulnerable peatland species and improving water quality.

At this stage, a pilot phase draft Code is designed to facilitate business sponsorship⁵ motivated by corporate social responsibility; it is not currently intended for use in carbon offset⁶ schemes, corporate carbon reporting or to be traded on international carbon markets. The Code does provide guidance on quantifying climate and other benefits, to reinforce the value of the sponsoring restoration, and it may be possible to count these benefits in corporate carbon accounts if Government guidelines allow in future. It may also be possible to trade this carbon on carbon markets in future via additional verification to accepted international standards. However, these options are not included in this draft Code for the Pilot Phase.



Blanket bog of the Flow Country, Forsinard © RSPB

1.1 Why peatlands?

Peatlands are the UK's largest soil-carbon store and substantially exceed the total carbon stored in living biomass. Peatlands sequester carbon slowly over millennial timescales, but in their damaged state they can release this carbon store rapidly. The International Union for the Conservation of Nature's (IUCN) Commission of Inquiry on Peatlands⁷ highlighted in 2011

⁵ Sponsorship in the context of this Code refers to payments that are made from the private sector in return for the provision of ecosystem services, principally climate change mitigation, which is quantified, along with unquantified co-benefits including biodiversity and water quality. During Phase 1 of the Code, there is no option to trade carbon credits to obtain a financial return on investment. However, it is expected that sponsors will be paying for the ecosystem services they sponsor to balance against their own business activities in some form, for example incentivising sales of a certain product by using a portion of the sale price to restore peatlands. Sponsors will need to be clear therefore that the ecosystem services, once used in this way, cannot be banked for future re-sale, and it may not be possible to re-use them in any subsequent carbon trading regime

⁶ Schemes that generate tradable carbon credits that can be used to offset the emissions of sponsors

⁷ Bain CG, Bonn A, Stoneman R, Chapman S, Coupar A, Evans M, Gearey B, Howat M, Joosten H, Keenleyside C, Labadz J, Lindsay R, Littlewood N, Lunt P, Miller C, Moxey A, Orr H, Reed MS, Smith P, Swales V, Thompson DBA, Thompson PS, Van de Noort R, Wilson JD, Worrall F (2011) IUCN UK Commission of Inquiry on Peatlands. Edinburgh, IUCN UK Peatland Programme.

that around 80% of UK peatlands have been damaged in some form. In the past, peatlands were not valued for the natural services they provide and were often drained, leaving them in a deteriorating state that gives rise to potentially major carbon loss. In recent years however, restoration techniques have been developed and used across the UK that can help repair the damage.

Using good practice restoration techniques, restoring damaged peat lands can help mitigate climate change by reducing carbon loss from these systems, whilst creating healthy peatlands that can absorb and lock up carbon dioxide from the atmosphere. Peatlands are the UK's most extensive semi-natural habitats, harbouring internationally important wildlife. They are also source areas for the majority of the UK's drinking water. Degraded peatlands increase costs of water treatment, which restoration can safeguard against.

Across the UK there is considerable potential for peatland restoration with excellent demonstration projects. These include single sites managed by wildlife conservation charities and partnership projects involving several private and public land managers working together to restore large tracts of land⁸.

Three types of peatland are most extensive in the UK: blanket bogs, raised bogs and fens. The Peatland Code currently provides detailed guidance for implementing and monitoring restoration in blanket bogs, as these are the more extensive habitat (covering 95% of peatlands) and hence have greater potential for climate change mitigation and other co-benefits. However, the Pilot Phase will explore the potential for raised bogs and fens to be considered for fuller inclusion in the Peatland Code in future, with more detailed guidance featuring in later phases as this becomes available.



Restoration at Blackpitts, Exmoor Forsinard ©SouthWestWater

1.2 Why do we need a Code?

The proposal for a UK Peatland Code initially emerged from a meeting of peatland researchers, practitioners and members of the policy community convened by the IUCN UK

⁸ Cris R, Buckmaster S, Bain C, Bonn A (eds.) (2011) UK Peatland Restoration - Demonstrating Success. IUCN UK National Committee Peatland Programme, Edinburgh.

Peatland Programme conference in Stirling in 2011. The Government's 2011 Natural Environment White Paper emphasised the creation of new markets to pay for nature's services. It announced the formation of Defra's Ecosystem Markets Taskforce, which ranked a UK Peatland Code as their joint top opportunity out of 44 that were submitted. The Natural Environment White Paper committed to producing a Payment for Ecosystem Service Action Plan, which Defra published in May 2013, and which highlighted peatland restoration via a Peatland Code as one of five specific opportunity areas. This committed Defra to a number of specific actions, including the launch of a pilot Peatland Code. In a letter to the IUCN UK Peatland Programme in February 2013, the four country Ministers welcomed IUCN's work and set out a framework for action including co-operation and co-ordinated action to support the development of a Peatland Code. This intention was re-iterated in the UK Government's National Adaptation Plan (July 2013), and by the Committee on Climate Change who highlighted the development of a Peatland Code as a "key priority" (July 2013).

The UK Peatland Code is designed to provide the scientific and regulatory basis for peatland restoration, guiding projects in the quantification of carbon and other benefits of restoration. The Code also gives potential corporate sponsors confidence that their financial contribution is making a measurable and verifiable difference to UK peatlands, and enables them to report this to their stakeholders.

The Code builds on an extensive body of research into the climate and associated benefits of peatland restoration, and good practice in peatland restoration, initially collated by the IUCN UK Peatland Programme's Commission of Inquiry on Peatlands in 2011^{4,9}.

Specific objectives of the Code are to:

- Provide an open, consistent and credible basis for good peatland restoration practice in line with documented good practice
- Ensure that projects are designed to deliver tangible benefits for climate change and are implemented in a manner likely to promote other key ecosystem service benefits (in particular the protection of important habitats and species, and for example, improvements in water quality) and in a manner that is consistent with the long term functioning of the ecosystem
- Provide technical guidance to help projects quantify climate and other benefits in a consistent and credible manner
- Establish a system of independent quality assurance through the introduction of procedures for registering, validating and verifying the climate and other benefits of peatland restoration projects.

1.3 Pilot Phase

The aim of the Pilot Phase is to encourage early sponsorship of peatland restoration to help demonstrate peatland benefits and build an increasingly robust evidence base and methodology for future phases of Code development.

The Pilot Phase will focus on further developing the infrastructure for the Code, including: testing and refining proxy models for carbon monitoring and developing a standardised field

⁹ This draft Code has been developed through research funding from Defra as one of its Payment for Ecosystem Service Pilots, with additional funding from Natural England to develop metrics for measuring the GHG emission reduction benefits of restoration. Initial consultation, outlines of the Code and underpinning research was funded by the Natural Environment Research Council's Valuing Nature Network, which built on original research funded by the Rural Economy & Land Use programme.

protocol for vegetation monitoring; developing evidence-based financial analysis of the various life-cycle costs associated with investing in peatland restoration; and work with the UK Accreditation Service (UKAS) and existing third-party UKAS-accredited auditors to develop protocols to assess and accredit auditors (referred to as “certification bodies” in the Code) and projects under the Peatland Code. The goal is to eventually develop a registry for Peatland Code projects to issue and record ownership and transfers of GHG emission reduction credits and their retirement (see glossary), cancellation or suspension under different circumstances. Peatland restoration best practice guidance is currently being updated by IUCN UK Peatland Programme, John Muir Trust and Yorkshire Wildlife Trust.

The subsequent sections describe the UK Peatland Code in its current draft form, and provide detailed guidance for projects and sponsors that wish to take part in the pilot phase. Although the pilot phase is targeting the CSR market, by adhering to the Code, sponsors maximise the likelihood that their projects can be accredited under subsequent phases of the Code, and provide valuable experience that can be used to further refine the Code. They set out principles, requirements and guidance for the eligibility of projects, project governance and documentation, and monitoring of climate and co-benefits.

2. Eligibility

This section sets out the requirements for eligibility.

Principles

The project must be eligible in terms of:

- The timing of the project
- The type of activity undertaken
- Land ownership and tenure rights
- Compliance with all relevant legislation
- Demonstrating additionality (i.e. only viable due to availability of sponsorship for peatland restoration)

2.1 Project start date, duration and contracts

Requirement

Projects shall register within 2 years of the project start date. Once independent certification bodies have been accredited by UKAS, all projects are expected to be validated within 3 years of registration.

Projects shall have a clearly defined duration, with a minimum of 30 years. Although the upper limit would normally be 100 years, longer contracts may be possible. For information about contractual issues, see section 2.3.

Means of verification

- Project Design Document
- Contracts between buyers and sellers

Guidance

The **project start date** is the date when restoration begins.

The **project duration** is the time over which project activities are to be implemented, monitored, and Greenhouse Gas emission reduction claims are to be made.

The project duration should not be confused with permanence. All projects shall involve a permanent land-use change to a restored and healthy peatland ecosystem (as defined in section 3.2).

Contracts between buyers (sponsors) and sellers (landowners/tenants with intermediaries) should cover a number of issues, which may include:

- Assignment of GHG abatement rights for the contract period, including any surpluses
- Duration of the project
- Definition/location of the land subject to the agreement
- Guarantee that management practices are carried out as laid down in the management plan
- Naming/branding/promotional rights for investors/intermediaries (e.g. signs on display)
- Maintenance of public access
- In event of land sale, actions to inform buyers of the terms of contract and/or secure buyer agreement to observe this contract
- Provision of alternative sites if land ceases to be available for purposes of the contract
- Avoidance of technical claims about Greenhouse Gas emission reductions without prior approval
- Confirmation of periodic verification

2.2 Eligible activities

Requirement

Eligible activities shall be those relating to peatland restoration through re-wetting, or re-wetting in combination with other land management change required to re-establish species that are normally peat-forming, for example *Sphagnum* bog mosses and, where relevant, other species identified in designations where these are applicable. Previous land management practices that led to degradation of the site (the management baseline) need to be identified to ensure management under restoration differs from this baseline and supports restoration.

Means of verification

- Statement on land use in Project Design Document
- Existing land use records that can be verified by other relevant evidence such as the use of secondary data (e.g. use of satellite imagery where necessary to determine changes in burning intensity) and/or where existing records are not available, a Land Use and Management Log, recording all changes in land use and management over the course of the contract
- Reference to historical maps, images or other sources
- Signed attestation from independent expert

Guidance

For the purposes of the Code, peatlands are defined as those dominated by peat soils over 50 cm deep. This definition is used because it does not require peatland vegetation, which is important for heavily degraded sites that are to be restored. The depth of soil threshold is consistent with the definition of peat soils in England and Wales and used in the Woodland Carbon Code, however this depth will be reviewed during the pilot phase. Soil type and depth may be inferred initially from the National Soil Map of England and Wales (NATMAP) (see <http://www.landis.org.uk/data/natmap.cfm>), Soil Survey of Scotland 1:250 000 soil database and maps from James Hutton Institute (Scotland), or the Soil Survey of Northern Ireland map (held by AFBI). However, questions remain over their accuracy at the required scale, so to ensure projects are taking place on appropriate soils, a peat core survey is required to validate these maps, and demonstrate an average peat depth of at least 50 cm. Peatlands may be active (where peat is currently forming and accumulating or supports peat forming vegetation but is not currently laying down peat) or inactive (currently lacking in peat forming vegetation). Soil may or may not be currently covered by peat forming vegetation such as *Sphagnum* moss. For the purposes of the Code, peatlands include sites where peat deposits have been partially lost due to human activities (e.g. previous peat extraction, human-induced peatslides, wildfire, severe erosion exacerbated by overgrazing, pollution, burning, or agricultural wastage of peat), but that can feasibly be safeguarded and/or restored to active building peat bog status.

On damaged peatland, restoration returns the conditions necessary for long term retention of semi-natural peatland vegetation cover, with its typical species and habitats, reducing or halting carbon loss and allows peat accumulation to take place again, over the long-term. Restoration management may range from slight adjustments, such as reducing grazing and managed burning levels, to more substantial works such as rewetting to elevate the average annual water table through ditch blocking in formerly drained sites, or stabilising peat through re-vegetation of bare eroding peat. For more information about types of restoration allowed under the Code, see section 4.2 and best practice peatland restoration guidance (in prep.).

It will be necessary to identify the former management practices that led to degradation, so that management under restoration can be compared to these baseline management practices and future management can be devised to ensure restoration is supported. See means of verification above for methods to identify this management baseline.

2.3 Eligible land

Requirement

Land owner(s) (and where relevant tenants) to be able to enter a contract over the project area for the duration of the project.

Means of verification

- Declaration in Project Design Document detailing nature and location of ownership or tenure documentation and landlords consent
- Solicitor or chartered surveyor's letter
- Title deeds
- Land registry records

- Copy of lease (if leasehold) certified by solicitor or chartered surveyor

Guidance

Projects are required to demonstrate legal ownership (or tenure and consent from landowner) of the project area for the duration of the project. One way of proving ownership is by accessing title registers and plans in the land registry, if the project area is registered¹⁰. Other suitable forms of evidence of ownership include title deeds or a solicitor or chartered surveyor's letter. If the land is leased then a certified copy of the lease is required (by solicitor or chartered surveyor).

Projects shall identify any other parties who have rights of:

- Access (defined as the right to enter the area for purposes that do not damage or in any way detract or subtract from the site e.g. walkers)
- Withdrawal (defined as the right to obtain resources from the site e.g. fishing and other sporting rights, grazing, rights of turbary, water abstraction or mineral abstraction rights)
- Management (defined as the right to regulate/alter patterns of use and management of resources within the site)
- Exclusion (defined as the right to determine who has access and withdrawal rights)
- Alienation (defined as the right to sell or lease access, withdrawal, management and/or exclusion rights to the site)
- Mortgagees or other holders of security over the land
- Other legal and equitable interests in the land

Those who hold such rights or their representatives shall be consulted about any proposed restoration scheme, and where necessary, proposals shall be advanced as part of the Project Design Document to minimise or mitigate negative impacts on these rights-holders (see section 3.3). Where land is held under communal tenure, projects must demonstrate that all commoners with withdrawal rights have been consulted.

Projects should ensure that Environmental Impact Assessments are carried out prior to restoration commencing, where this is legally necessary. For example, an EIA would be necessary if: i) the project would lead to a change in broad type of land use (e.g. no longer agricultural land); ii) the project includes construction of a permanent development (including large dams or bunds to impound water in some lowland peatlands, where bunds would require an EIA); or iii) where agricultural operations are intended to intensify agriculture on unimproved or seminatural habitats (normally, peat restoration does the opposite). EIAs may apply in both designated and undesignated areas, but in designated areas any development is more restricted since it cannot be allowed to affect the interest feature adversely

To ensure security of tenure, agreements shall where possible be made with freeholders. Where freeholders are the trustees of private trusts (e.g. some large estates), there may be limits on the length of contract that can be entered. Where relevant, further separate agreements may then be negotiated with the occupier. These may be enforced through future tenancy agreements by including the terms in the agreement itself. It should however be noted that enforcing terms under future tenancy agreements may be difficult under old style Agricultural Holdings Act tenancy agreements, which give tenants wider freedoms.

¹⁰ The relevant land registries can be accessed here: [Land Registry \(England and Wales\)](#); [Registers of Scotland](#); [The Land Registry Northern Ireland](#).

2.4 Compliance with the law

Requirement

Projects shall make a declaration that they will comply with the law, with respect to project activities and cross-compliance with other relevant legislation that may be affected by project activities. The certification body will verify that there is no evidence of non-compliance with the law.

Means of verification

- Statements in Project Design Document
- Project Design Document outlines a system or procedures for being aware of and implementing requirements of new legislation
- No evidence of non-compliance with the law

Guidance

Certification is not a legal compliance audit. The certification body will be checking that there is no evidence of non-compliance with relevant legal requirements, including:

- Managers and employees understand and comply with all legal requirements relevant to their responsibilities;
- All documentation, including procedures, work instructions and contracts, meet legal requirements;
- No issues of legal non-compliance are raised by regulatory authorities or other interested parties during the consultation phase (see section 3.3) of a project.

2.6 Additionality

Requirement

Additionality shall be demonstrated through the following tests. Test 1 and Test 2 plus ONE OF Test 3 or Test 4 must be passed to ensure additionality:

1. Legal test: There is no legal order specifying that peatland should be restored
2. Contribution of peatland restoration sponsorship test: private sponsorship shall cover at least 15% of the restoration costs (which may include capital works, management costs and income foregone)
3. Investment test: Projects shall demonstrate that without peatland restoration finance the peatland restoration project is either not the most economically or financially attractive for that area of land or is not economically or financially viable on that land at all
4. Barrier test: Existing barriers to the implementation of the project have been overcome. Barriers could be legal, practical, social, economic or environmental

Means of verification

- Statements in Project Design Document
- Analysis of the actual restoration costs and the proportion covered by private sponsorship
 - A full financial analysis (including expected costs and revenues) of the funds required to implement and manage for the project duration
 - Further evidence to support barrier test if used

Guidance

The concept of “additionality” is that projects should fundamentally seek to obtain an environmental benefit that would not have otherwise occurred.

In practice this means finance via the Peatland Code should enable a peatland restoration project to occur where otherwise it wouldn't have occurred. There are a number of criteria that need to be met in order for a project to demonstrate its ‘additionality’: the legal test, contribution of peatland restoration sponsorship test, investment test and barrier test.

Legal Test

The project would not be considered additional if there is a pre-existing legal order specifying that peatland should be restored (e.g. planning conditions). Restoration is considered additional on sites with conservation designations (e.g. Sites of Special Scientific Interest and Natura 2000 sites), where there are objectives to restore peatland, but where sufficient finance has hitherto been unavailable to achieve these objectives (whether privately or via agri-environment schemes), and where there are no statutory orders requiring action e.g. nature conservation orders under legislative Acts.

Contribution of Peatland Restoration Sponsorship Test:

An initial threshold for the contribution of private sponsorship towards the costs of peatland restoration has been set at 15% of project costs, to allow future flexibility.

Projects receiving grant aid under a government-funded initiative (e.g. agri-environment schemes such as Entry Level Stewardship or Higher Level Stewardship) are eligible provided at least 15% of the project costs are from private sources (and other additionality tests are met). Although agri-environment funding can only cover the costs of restoration and income foregone, it is possible for private finance to contribute towards other costs to make the project viable, for example including ongoing maintenance and monitoring. Where peatland restoration is partly funded by Government and partly funded through private sponsorship, it may not be possible to trade these GHG emission reductions on voluntary carbon markets or include them in corporate carbon accounting – sponsors should consult the rules of these schemes to assess whether they are likely to be eligible for inclusion.

Investment test:

Projects shall demonstrate that without carbon finance the peatland restoration project is either not the most economically or financially attractive for that area of land or is not economically or financially viable on that land at all. Alternative land uses that may compete with the objective of peatland restoration include rotational burning for grouse shooting and intensive agriculture. These land uses may provide a greater financial return than peatland restoration.

Barrier test:

Existing barriers to the implementation of the project have been overcome. Barriers could be social, economic or environmental. Barriers to peatland restoration may include;

- Lack of community buy-in
- Inaccessibility
- Lack of skilled labour and inputs
- Insufficient finance to meet up front costs

Projects should clearly set out in the Project Design Document whether this test is being used and describe the barriers and how they have been overcome. Supporting evidence (for example, from a bank if financial) will be required to substantiate the use of this test.

3. Project governance

This section offers guidance for the correct management of the project:

- In order to avoid double counting of carbon benefits, the project shall be registered via the Peatland Code Project Registry when this becomes available
- Risks shall be managed so that GHG emissions are reduced over the longer-term, with no leakage¹¹ effects
- Consultation shall take place with stakeholders in proposed projects

Principle

Projects need an effective and transparent governance structure with clear lines of accountability to enable cost-effective verification and to build confidence with stakeholders in order to ensure:

- Carbon benefits are not double-counted
- Risks are adequately managed to sustain GHG emission savings from the restored peatland over the long-term
- Relevant stakeholder are consulted about proposed projects

3.1 Registry and avoidance of double counting

Requirement

Details of the project and the land to be restored shall be registered on the Register of UK Peatland Code Projects, when this becomes available. In the first instance, this will be a project registry, held by IUCN UK Peatland Programme. In later phases of the Code, a credit registry will also be created, which will probably be held by a private sector registry supplier.

Means of verification

Land area is recorded on the Register of UK Peatland Code Projects.

Guidance

The Register of UK Peatland Code Projects is not yet available.

Double-counting occurs when the same tonne of CO₂ equivalents is claimed by two separate entities, or in later phases of the Code if the same tonne of carbon dioxide were to be sold more than once. To avoid double counting there is a need for each project, and the buyers of its carbon to be recorded in a central registry.

The registry ensures transparency and also acts as a platform to bring buyers and sellers together. Key benefits of the registry are:

- Documentation can be publicly viewable, increasing transparency and confidence and helping to attract buyers
- The buyers of carbon at each individual project can be identified, ensuring that buyers claims are verified, and that carbon has not been sold more than once.

¹¹ For a definition of “leakage” see glossary

3.2 Management of risks and permanency

Requirement

The project land owner(s) shall commit to maintain the project area as a permanent peatland area and maintain agreed vegetation cover and water levels. The Project shall demonstrate the commitment to permanence by:

- Identifying risk factors and developing appropriate mitigation strategies
- Assessing the level of risk according to climate, ownership, user rights, hydrologic connectivity, technical capability, current and future opportunity costs, endorsement of local population (see section 3.6), and national authorities etc.
- Managing as per the longer-term management intentions for the project duration and beyond
- Creating buffers proportional to the level of perceived risk, to mitigate against future losses or unrealized gains

Means of verification

- Risk Assessment
- Further evidence to confirm assessment of risk
- Subtraction of carbon buffer in project carbon calculations
- Evidence of contracts requiring continued implementation of the Project Design Document by the land manager and requiring the landowner to inform future owners of the commitment to the Peatland Code and to seek ongoing commitment on a change of ownership or occupation
- Practical evidence of the project developer demonstrating sensitivity to risk factors
- Field observations confirming that assessment of risk is reasonable
- Summary of consultation responses and mitigation measures (see section 3.3)

Guidance

Permanence describes the issue of ensuring Greenhouse Gas emission reductions is permanent, and not reversed at a future point in time. For the purposes of the code, permanence is defined as the prevention of GHG emission savings as a result of project activities from being re-released to the atmosphere indefinitely. However, actual reversals of GHG emission savings will only be assessed over the contract period. Peatland projects carry a risk of reversibility if management interventions undertaken as part of a project are reversed in future, and as such safeguards must be in place to minimise that risk and to guarantee replacement or compensatory peatland restoration should a reversal occur during the contract period.

In England and Wales, Conservation Covenants may soon be used to allow long-term management agreements to follow any future sale of the property. For more information see: lawcommission.justice.gov.uk/areas/conservation-covenants.htm. In an update in August 2013, the Law Commission announced it would be going ahead with a draft timetable to legislation, and noted the strong demand expressed during the consultation for “providing assurance that conservation activity will be undertaken in return for payments for eco-system services”. In Scotland, a covenant would be secured from the current landowner not to part with ownership without securing a similar covenant with the new owner (or providing an equivalent area of new peatland restoration that is likely to secure a similar level of GHG abatement on a degraded but previously unrestored site). Advice should be taken on equivalent procedures in Northern Ireland.

Risk management shall be built in at every stage of project design. The size of the risk buffer shall be determined using the risk assessment guidance below and specified. Risk of non-permanence beyond the project period will be assessed with proposals made to mitigate risks where possible and buffer size adjusted accordingly. These risks may be broken down into internal risks, external risks and natural risks as follows, and should be identified, with relevant mitigation measures identified as required.

Internal risks to the project include:

- Project management risks such as lack of qualified personnel to undertake the restoration work, issues over enforcing property rights, and inappropriate selection of management techniques
- Financial risks such as a lack of sufficient funds to meet all project costs (capital, maintenance and transaction costs) and significant opportunity costs
- Project longevity which relates to the risk that agreements are not in place for the duration of the project lifecycle

External risks to the project relate to:

- Land tenure and resource access/impacts relating to the threat that competing uses of land can have to the restoration project. For example, public access may cause erosion and peatland degradation
- Impact of changing land use e.g. tree planting or drainage on adjacent land within the same hydrological unit
- Impact of fencing to exclude deer, resulting in changed patterns of movement which may affect a restoration site
- Changes in rates of atmospheric deposition of pollutants leading to habitat damage and change in species composition
- Lack of community ‘buy-in’ to the project
- Negative impacts on adjacent land-holdings

Natural risks to the project relate to:

- Wildfire
- Pest and disease outbreaks among peat-forming plant species
- Extreme weather
- Climate change, in particular the predicted increased incidence and severity of summer droughts
- Geological risk including slope-failure, mass movements/peat slides

Each project is required to undertake a risk assessment in line with these criteria, for example employing qualified (e.g. RICS or CAAV accredited) Chartered Surveyors and Agricultural Valuers to assess the risk of negative impacts on adjacent land-holdings. Projects that are deemed at greater risk than others are required to put in place a larger 'GHG emission reduction buffer'. For example, projects where risks of drought and wildfire are greatest (due to predicted climate change and visitor numbers) are likely to require larger buffers than many wetter and less visited sites. More detailed guidance (and where relevant metrics) for risk assessment will be developed as part of the pilot phase of Code operation.

Risks shall be re-assessed within 5 years of validation and thereafter within at least 10 yearly intervals (when monitoring is conducted), and buffer sizes adjusted accordingly. To ensure permanence, buffers may be shared between different projects at the discretion of the accrediting body. In this way, GHG emission reductions may be taken from projects that achieve more GHG emission reductions than they intended, whose buffer size is reduced at mid-term review or who do not require their buffer, and given to projects that need to increase the size of their buffer, fail to realise intended GHG emission reductions or that lose GHG emission reductions, for example due to catastrophic events.

The buffer is defined as 'a pool of unclaimed GHG emission reductions' to cover either uncertainty in GHG measurement or unavoidable potential losses which may occur from the project over time, thus ensuring the permanence of GHG emission reductions.

A number of catastrophic events (i.e. "force majeure") that cannot be foreseen (such as war and natural disasters) and that would be outside the control of the project, could affect GHG emissions with or without the project, and are not expected to be buffered against.

Contract-related disputes are a matter for the courts rather than for the body that will run the UK Peatland Code. However, it is expected that if restoration is not delivered through the fault of the project, non-compliance with the contract to deliver restoration should first be dealt with via arbitration (or disputes clauses within contracts). Ultimately recourse may be to the courts, with the potential for lawsuits to be brought against sellers by buyers. Where necessary GHG emission reductions from the pooled buffer (generated across multiple projects) may be used to meet commitments, with GHG abatement credits cancelled, the seller being decertified and forbidden from using the Peatland Code in future unless they deliver their commitments. Alternative for example, sellers may provide an equivalent area of new peatland restoration that is likely to secure a similar level of GHG abatement on a degraded but previously unrestored site, to meet their commitments.

3.3 Consultation

Requirement

Projects shall consult those with tenure rights over the land proposed for the project (including those with rights of access, and an opportunity for the public to provide views), or their representatives, and statutory conservation and water bodies, and make proposals to mitigate any negative impacts of the project on rights holders (as defined in section 2.3).

Means of verification

- Evidence in Project Design Document that those with rights of access, withdrawal, management, use, exclusion and alienation have been identified and where relevant consulted, and reasonable attempts have been made to mitigate against negative impacts from the project on the interests of these rights holders, which may include suitable compensation measures for the loss of, or interference with, rights of 'quiet enjoyment'

Guidance

See guidance notes for section 2.3 for definitions of rights holders.

Projects shall demonstrate that all reasonable attempts have been made to contact rights holders or their representatives, including active attempts to trace and make contact via appropriate means of communication. At minimum, this would normally be a sign on site or at on a nearby public right of way for more remote sites, a notice in a local paper and a letter to owners of adjacent properties, where these can be identified.

Project proposals shall be available to all likely consultees (including those without internet access) for a minimum of 8 weeks.

It is accepted that it will not be possible to mitigate all negative consequences for all rights holders, however, all objections shall be listed and addressed, and reasons given where it is not possible to mitigate against them.

3.4 Group schemes

Given the complexity of effectively setting up and managing group schemes where multiple sellers offer ecosystem services across property boundaries, these are not permitted during the Pilot Phase, but guidance will be prepared for later phases of the Code to permit such activities.

4. Project documentation

This section offers guidance on how to document and report on the project:

- The Project Design Document (PDD) and the Management Plan aim to provide a clear and effective governance structure with clear lines of accountability. Processes and activities shall be clearly documented to allow time- and cost-effective verification
- There shall be a well designed management plan and evidence that there is sufficient management capacity for the proposed project
- Claims about carbon shall be clear and accurate and reported on a regular basis, using the Peatland Code logo

Principle

Projects need to be clearly documented with effective reporting processes to ensure:

- All aspects of project design are clearly documented
- There are effective management plans in place to deliver projects
- Claims about carbon are clear, conservative and accurate

4.1 Project design documentation

Requirement

A. Description of the proposed project and original conditions in the project area, including:

- the project title;
- its objectives and activities;
- its location and project boundary, including geographical information and physical descriptions;
- the organisations and individuals involved, including roles and responsibilities in the project and contact information;
- an indication of whether the project site covers statutory designations (i.e. SSSI, SAC, SPA, LNR), and whether this places constraints on the project design or raises additionality issues.

B. Duration of project activity

C. Methodology: application of baseline, measurement and monitoring methodology, including:

- leakage assessment, with relevant mitigation strategy;
- estimation of emissions reductions to be generated over the chosen period.

D. Additionality assessment

E. Long-term management plan

F. Monitoring plan outlining how performance will be monitored, including:

- a chronological plan showing when monitoring will be undertaken;
- the performance indicators/targets that will be used; and

G. Environmental impacts of the proposed project activity, as outlined in any ES or EIA process to which the project has been subjected, or an “appropriate assessment” for sites designated under the Habitats Directive.

H. Socio-economic impacts of the proposed project activity, including a brief description of communities located around the project area, as outlined in any ES or EIA process to which the project has been subjected, and reporting and responding to the findings of any consultation carried out with local stakeholders.

Means of verification

- Project Design Document
- Boundary map showing areas to be restored
- Map showing any designated areas

Guidance

The area covered by the project shall be clearly defined using appropriate maps, identifying all relevant aspects of the peatland resource, including any special characteristics and/or sensitive areas, and areas to be restored.

A template PDD is available on request, and is being further developed and refined during the pilot phase of Code operation.

4.2 Management plan and capacity

Requirement

There shall be a detailed management plan for the project containing:

- An outline of the necessary inputs and resources
- A summary of restoration and maintenance techniques over the full contract duration, ensuring these adhere to known good practice (as contained in good practice guidance – under preparation by IUCN UK Peatland Programme, John Muir Trust and Yorkshire Wildlife Trust)
- A chronological plan for initiation of key project activities
- Full financial analysis providing for maintenance and monitoring over the full contract duration
- Statement on risks and contingencies

There shall be an outline of the longer-term management intentions, for the project duration and beyond.

The project developer shall have the management capacity necessary to carry out the planned project activities for the duration of the project.

Means of verification

- Contract between project parties or statement from landowner sets out longer-term management intentions (including the peatland management regime to be applied)
- Project Design Document which clearly defines how roles in the project will be fulfilled
- Project team lists which identify key technical skills

- Evidence from previous project experience

Guidance

Restoration and maintenance techniques

Where relevant, each of the following steps are normally expected to be taken during peatland restoration under the Code:

- Reduce/prevent disturbance (e.g. livestock management to reduce grazing/trampling impacts, and fire reduction or prevention – both managed and ‘accidental’)
- Stabilize bare peat (e.g. nurse crops, brash/ geojute)
- Water table management (grip/gully blocking using permeable and non-permeable material depending on objective, possibly reprofiling)
- Vegetation and biodiversity management (seeding/propagation/planting; heather cutting, tree and scrub removal).

Good practice in peatland restoration must be followed, as detailed and regularly updated in the good practice guidance – under preparation by IUCN UK Peatland Programme, John Muir Trust and Yorkshire Wildlife Trust.

Vegetation and diversity management may include removal of woodlands from peatlands¹².

The following restoration techniques are not compliant with the Peatland Code:

- Projects that entirely consist of the relocation of peat from one site to another – there is no evidence that carbon will be retained and become an active peat bog

Activities that may be included at a later date:

- The possibility of including projects in future that seek to avoid peat extraction/peat mining at a specific site will be explored during the pilot phase
- Restoration of fen and raised bog habitats

Chronological plan for initiation of key project activities

A chronological plan shall be put together to illustrate the timetable for peatland restoration and the timing of various capital works, maintenance works, monitoring and verification.

Full financial analysis providing for maintenance over the full contract duration

Financial analysis shall set out the costs incurred to the project and the expected timing of those costs over the project lifecycle.

¹² Removal of scrub and/or forestry on peatland should be in line with the UK Forestry Standard and the UK Woodland Assurance Standard. For England, see also the Forestry Commission [policy on restoration of open habitats](#) and for Scotland, see Forestry Commission [policy on woodland removal](#). Wales does not have a specific document about its woodland removal policy. However its policy is set out in *Woodlands for Wales* the Welsh Government's (WG) woodland strategy: [http://www.forestry.gov.uk/pdf/EnglishWfWstrategy.pdf/\\$FILE/EnglishWfWstrategy.pdf](http://www.forestry.gov.uk/pdf/EnglishWfWstrategy.pdf/$FILE/EnglishWfWstrategy.pdf)

4.3 Carbon statements and reporting

Requirement

Under the Pilot Phase of this Code it will be possible for sponsors to make statements about the emissions savings they have paid for. However, under the Pilot Phase of the Code, it is not acceptable to use climate benefits in formal corporate carbon accounting or for any offsetting purpose at this stage. It will only be possible to report GHG emissions savings after they have been verified, and it will only be possible to count verified emissions savings towards corporate carbon accounting if this becomes possible via formal reporting mechanisms (e.g. DEFRA Greenhouse Gas Reporting Guidelines), if the use of emissions savings in corporate carbon accounting is approved in a future iteration of the Peatland Code (a decision which would be taken by the Code's Steering Group) and all parties to relevant contracts are content for this to happen (e.g. landowners). Similarly, trading the GHG emission savings on the voluntary carbon market would only be possible if this were allowed in a future iteration of the Code and all parties were agreeable, assuming the relevant standards can be met for this market (e.g. Verified Carbon Standard). Emissions savings cannot be used in corporate carbon accounting or traded in any way during the Pilot Phase or for as long as the Peatland Code prohibits these activities. Statements made via any channel (e.g., formal reporting, press releases) prior to emissions savings being made shall clearly state the timescale over which emissions are to be saved. Net emissions savings of a project shall be calculated as project emissions savings adjusted for the baseline and leakage. Documentation shall show the predicted net carbon flux at 5-yearly intervals for the duration of the project.

The legal rights of all parties to claim or report the climate benefits of the project shall be clearly stated in the Project Design Document. Any changes to ownership of the carbon shall be documented and updated in the Register of UK Peatland Code Projects.

Means of verification

- Statement of claims in Project Design Document.
- Record in the UK Register of Peatland Code Projects.
- Contract(s) between landowner, carbon company/agent and sponsor state(s) each parties' legal right to claim or report the carbon benefits of the project.
- Signed attestation from each party to the project regarding the agreed approach to carbon statements or reports.

Guidance

A carbon statement is simply a statement of what a project will store or has stored to date. It can be restated by more than one party with an interest in a project.

Anyone making carbon or other environmental claims should also refer to Defra's Green Claims Guidance.

4.4 Peatland Code logo

Requirement

Certified projects may use the Peatland Code logo and shall do so in accordance with the Rules of Use, which will be published once the logo is registered as a Trademark (currently pending).

Means of verification

- Examples of appropriate use
- No evidence of misuse

5. Monitoring climate and other benefits

There shall be an effective monitoring scheme with baseline assessment of vegetation and water table depth put in place providing up to date information on the progress of the project towards climate mitigation goals. Peatland restoration also has the potential to provide many benefits in conjunction with reducing GHG emissions. These shall be identified and encouraged. Negative side effects shall also be identified and prevented where possible. It is expected that finance for monitoring will be built into the costs of restoring peatland over the course of the contract.

Principles

Effective monitoring gives up to date information on the project's progress towards climate mitigation goals.

Peatland restoration has a range of co-benefits, including improved water quality, aesthetic and accessibility benefits for recreation, and biodiversity gains. Projects need to be of high environmental quality, taking into account the wider impacts on ecosystems to ensure that no harm is done by the project and, whenever possible, that wider benefits are created.

5.1 Establishing a carbon baseline

Requirement

Projects shall establish a **baseline** against which changes in GHG emissions and other ecosystem services can be measured. A net GHG emission baseline is the reference level of GHG flux from which the impact of the project can be measured. In addition to this, projects shall describe the original condition of the project site including details of the vegetation cover, soil type (including peat depth) and the estimated carbon content of the soil.

Means of verification

- For site description, appropriate maps, photographs or remotely sensed images to indicate previous land cover; results of field survey for vegetation (using National Vegetation Classification) or soil survey for soil type.
- For baseline calculations, carbon baseline calculations in Project Design Document.

Guidance

The baseline shall be based on a continuation of the current land use in the absence of the project and is calculated at the start point using vegetation proxy methods, or on the basis of at least 5 years previous direct measurements. Where land is cleared of trees or other vegetation in preparation for the project start date, the lost carbon stock shall be calculated and subtracted from the project GHG emission reductions at year 1.

More detailed methods for calculating baselines are available as part of the VCS methodology for peatland rewetting, available here: <http://v-c-s.org/sites/v-c-s.org/files/PRC%20RDP%20GEST%20methodology.pdf>

5.2 GHG leakage**Requirement**

Confirmation shall be given as to whether the land manager intends to change or intensify the use of land elsewhere as a consequence of the peatland restoration.

If leakage (land use change / intensification) does occur within the UK then projects need to carry out an assessment to determine whether this will result in GHG emissions.

If significant GHG emissions occur they shall be quantified for the duration of the project and will be used to reduce the overall net climate benefit claimed by the project.

Means of verification

- Statement in Project Design Document of intention by the owner/applicant to replace the previous land use or activity elsewhere
- Leakage assessment in Project Design Document
- Mapping or field observation of current land uses within the project boundary and the likelihood of displacement of activities
- Further calculations of leakage

Guidance

Leakage is GHG emissions outside the project boundary as a result of the project (e.g. displacement of agricultural activities might result in drainage of peatlands elsewhere).

Leakage is significant if it results in GHG emissions of magnitude $\geq 5\%$ of the project carbon storage over the duration of the project. Restoration of peatlands in one area may lead to degradation of peatlands or other habitats in other areas.

The potential for leakage shall be identified, and projects are encouraged to include leakage management zones as part of the overall project design. Leakage management zones can minimize the displacement of land use activities to areas outside the project area by maintaining the production of goods and services, such as agricultural products, within areas under the control of the project proponent or by addressing the socio-economic factors that drive land use change.

5.3 Monitoring climate benefits

Requirement

The project shall have a monitoring plan in place before the project begins, to quantify and document the progress of GHG emission reductions as a result of the project. Monitoring plans shall be properly costed (bearing in mind relevant discount rates) for the contracted period and built into the project costs.

Monitoring plans need to be set out in the Project Design Document, carried out at regular intervals (see guidance below), assessed by independent bodies, and adapted to improved scientific evidence on an ongoing basis. Relevant Government agencies/departments will be able to provide up-to-date guidance on biodiversity monitoring (Natural England, Scottish Natural Heritage, Natural Resources Wales and DARNI).

Regular monitoring of projects shall take place to demonstrate GHG fluxes are consistent with those identified in the Project Design Document (see guidance below). Projects are expected to determine GHG flux changes using vegetation-based proxies, but may alternatively use direct measurements or model-based approaches where appropriately validated and calibrated to site conditions (see guidance note).

Corrective actions shall be undertaken if water table levels or vegetation changes do not meet expectations. The carbon monitoring plan shall include details of:

- The carbon baseline
- The assessment protocol(s) to be used
- The frequency of monitoring
- The sampling frequency/no of sample plots
- How the data will be reported and quality assured

Means of verification

- Monitoring plans set out in the Project Design Document
- GHG monitoring reports which show progress in reduction in GHG emissions
- Review by independent bodies

Guidance

GHG emission reductions shall be measured and expressed in tonnes of carbon dioxide equivalent (tCO_{2e}). **Monitoring** and **verification** shall first take place in the first year following restoration (to demonstrate that the work has been done), at some point 1-5 years after validation, and thereafter at periods of 10 years (or less). Monitoring is a necessary step to assess how successful restoration and management activities have been in achieving objectives, goals or targets. For each ecosystem attribute, a clearly defined set of objectives for particular time periods need to be established.

Verification of the climate benefits of restoration shall be undertaken by an accredited body and will assess the GHG balance of the peatlands after restoration, projected to the end of the contract period, compared to the baseline (reference) scenario. The verification will also ensure that the peatland is being managed in accordance with best practice according to the good practice guidance (in preparation by IUCN UK Peatland Programme, John Muir Trust and Yorkshire Wildlife Trust).

Although it is expected that most projects will do this through vegetation proxies (see below), projects may also opt for direct empirical measurements (following an appropriately designed sampling strategy, with sufficient sample density and time intervals, reporting at least every 10 years, to represent changes across the site) using eddy covariance techniques (via flux towers) or closed chamber methods. Vegetation proxy methods are appropriate for calculating GHG fluxes from all forms of restoration described in section 4.2, however they are not currently adapted to account for emissions savings from forestry removal. More detailed guidance for monitoring GHG emission reductions associated with tree removal will be provided in later phases of Code development.

Changes to the reference condition should be monitored through tracking the GHG flux measurements or tracking changes in the vegetation proxies and the condition of the peatland. GHG emissions from drained peat, litter and ground vegetation are estimated based on the presence of GHG Emission Site Types (GESTs) with calibrated GHG emission profiles. Preliminary GESTs for UK peatlands have been published by Natural England and Defra [here](#). These will be further tested and refined in pilot projects during the Pilot Phase of the Peatland Code, in order to develop a protocol that can be applied across all UK peatlands for future phases of the Code and integrated into the Project Design Document.

In summary, following this approach indicator species or functional indicators (such as water table or bare peat area) within peatland ecosystems can be used to assess the condition of a peatland and can be used as a proxy for changes in GHG emissions from peatland. Vegetation proxies can be used to assess the condition of the peatland and this can be translated into a carbon metric, expressed as either emitting or sequestering X tonnes of CO_{2e} per hectare.

The GEST method has been successfully developed to cost-effectively monitor GHG flux changes from Central European peatlands, and a methodology based on the GEST approach has been approved by the Verified Carbon Standard for use in international voluntary carbon markets. Further work was commissioned by Natural England and DEFRA to adapt this approach to the vegetation assemblages found in UK blanket bogs in 2012/13. From this work, a number of GESTs have been determined for UK peatlands.

Using the GEST approach, the pre-project spatial distribution of GESTs is first calculated. Where the site contains a range of habitats, it is divided into sections and relevant GESTs are identified for each strata. Next, a time series of GESTs are developed for each stratum for the entire project's contract period, and annual GHG emissions can be calculated per stratum for the project's contract period.

5.4 Co-benefits

Requirement

The project shall set out the effects that it anticipates on a full a range of ecosystem services as possible and, where appropriate, include actions to enhance the co-benefits and/or minimise unnecessary trade-offs.

Means of verification

- Environmental Quality statements in Project Design Document
- Environmental Impact Assessment/Environmental Statement or confirmation that EIA is not required
- Other relevant documentation

Guidance

Peatland restoration has a range of substantial co-benefits, including biodiversity gains, improved water quality, and aesthetic and accessibility benefits for recreation. As well as synergies with other ecosystem services, there are some risks that peatland restoration may lead to certain undesirable trade-offs, which may need to be minimised through proactive land management planning, either via mitigation measures or additional payments to compensate for lost income (e.g. where restoration requires reducing the intensity of livestock grazing). Basic peatland restoration can also provide a foundation for other biodiversity creation or restoration projects and, where this land management is additional to the peatland restoration such management could access other income streams

All projects shall therefore need to be able to show that any environmental impacts on the land area concerned are likely to be positive. Where required, the content of an Environmental Statement and the requirements of the Environmental Impact Assessment process will usually cover all issues associated with environmental integrity.

Where an EIA is not required, effects on a range of ecosystem services shall be reported where possible, in particular focusing on peatland biodiversity. Habitat type and some aspects of condition may be inferred from vegetation monitoring used as part of the GEST approach (above), however collection of additional data (e.g. indicator species) may be required to adequately assess effects on biodiversity. This may for example include basic bird and invertebrate surveys, but this is not mandatory under the Pilot Phase of the Code.

Any other effects on the provision of ecosystem services from the site that can be monitored cost-effectively are actively encouraged where possible e.g. aesthetic and access benefits via visitor surveys and water quality monitoring.

Where detailed monitoring of co-benefits is not possible, projects may create a narrative based on published evidence e.g. from Natural England's Upland Evidence Review for the [restoration of blanket bog](#) (NEER003) (and more recent and/or site-specific evidence as appropriate) and include this in their Environmental Statement. Providing restoration sites are monitored for GHG emission savings (as per guidance in section 5.3), there is a robust evidence base for a range of co-benefits from successful restoration sites that may be claimed.

Appendix 2: Response to public feedback on draft Code

This appendix provides a copy of responses to the initial draft of the Peatland Code, which was made available for comment in June 2013. Individual responses have been anonymised, however, the full list of those who responded is given below. A total of 18 responses were received as follows:

- Andrew McBride – Scottish Natural Heritage
- Dr Rob Field - RSPB
- Ruth Welters – Natural Environment Research Council Valuing Nature Network
- Scottish Natural Heritage official reply collated by Dr Patricia Bruneau
- Woodland Carbon Code Steering group and Forestry Commission official reply collated by Dr Vicky West
- The Heather Trust official reply collated by Simon Thorp
- David Leach – Somerset Wildlife Trust
- Samantha Hagon – Lake District National Park Authority
- Jonny Wildman – Dinsdale Moorland Services Ltd.
- United Utilities – official reply collated by Edward Lawrence
- Jillian Hoy – SFQC
- Jane Lusardi – Natural England
- Steve Chapman – James Hutton Institute
- Claire Campbell – SEPA
- Paul Sinnadurai – Beacons NPA
- Royal Institute for Chartered Surveyors
- Elan Valley Trust
- Helen Dunn, Phil Earl and Colin Smith (DEFRA)

The business community was consulted via initial market research, and subsequently via meetings with members of the business community facilitated by Scotland's 20:20 Climate Group, leading to the production of tailored information leaflets for this group.

Draft responses to feedback are provided in red. These are provided in detail for questions 1 and 2, and in summary draft for later questions.

Presentation of the Code

1. What are your views on the presentation and clarity of the Code? Is it pitched appropriately for the intended audience?

1.1. Yes - although a few typos are lurking and the VCS weblink is broken

Code document has been proof read and VCS weblink has been fixed

1.2 The draft Code is comprehensive, but it does take time to read and absorb . It often lack to wordy and not clear about its intended target audience. It would not be easily understood by 'typical' land managers, although agents acting on their behalf should manage. Template documentation would probably help as at first sight it does seem that the bureaucracy is quite onerous – and thus expensive. This could be off-putting.

Leaflets explaining key elements of the code are being designed for buyers and sellers (this latter group would include land managers), which will be written in language that is accessible to each group. This will mean that the Code itself will primarily be read by intermediaries and others designing and running schemes under the Code, who we would expect to be able to deal with the technical nature of the document.

1.3 The intended audience is not clear. An immediate concern is that the code is pitched in language that will be alien to anyone except those who have a good understanding of peatland. Therefore, this will exclude the vast majority of landowners and land managers who own & manage most of the peatlands. To reach these people, guidance that is easier to understand will be required.

See answer to 1.2.

1.4 The document is well written and complex issues are explained with clarity. The overview provides some good arguments as to the benefits. However it is important not to over-sell any benefits and be completely clear what the outcomes of restoration will be – being clear about all parts of the jigsaw. There are areas needing more work and checking for consistency, but the similar structure to the Woodland Carbon Code will provide consistency of layout across the two standards which should reassure. It's appropriately pitched for the audience – although you may well find you need additional guidance for each section. For the Woodland Carbon Code we have produced this on the website.

The leaflets that are designed to explain the benefits/requirements for buyers and sellers will take care not to over-sell the benefits. These and the Code itself will be available online via the IUCN Peatland Programme website from September 2013.

1.5 If this document is aimed at potential sponsors then the opening paragraphs need to be simple and attention grabbing. In its current form potential sponsors will have to get to the 'Why Peatlands' section and the 'What do I get as a sponsor' sub headings of the main document for a simple explanation of why peat restoration is relevant to them. The document could be improved by a short introduction that explains the mechanism in very simple terms. This would summarise the first paragraph of the 'Why peatlands' section and the 'What do I get as a sponsor' section.

It would also help to have a more inspiring description of peatlands, perhaps giving a couple of examples of iconic places. Some mention of visitor numbers would be relevant to sponsors. Natural England research suggests that the reserves of the Avalon Marshes attract 70000 visits a year.

No, the code seems to be quite vague and interested parties could be left confused by the code as it is, this could be off putting to land owners, etc. For instance what is involved for the landowner and what he have to do.

See response to 1.2 – this feedback is useful and will be used to shape the drafting and design of these targeted leaflets.

1.6 No, the code seems to be quite vague and interested parties could be left confused by the code as it is. This could be off putting to land owners ect. For instance, what is involved for the landowner what does he have to do.

See response to 1.2

1.7 A Code is a defined standard of expected behaviours, but this reads as an outline of suggested scheme implementation.

This point was also raised at the feedback meeting in London. The revised Code now attempts to distinguish more clearly between the Code itself and the pilot phase, which operates more in the mode of a project.

1.8 It doesn't tell you the detail or implications of managing your peatland for carbon. We don't feel that the Code is sufficiently clear. There is a lack of knowledge about peat and

carbon from land owners and peatland managers. The significance of peat carbon storage and budgets needs to be simplified, explained and sold better.

This will be done in the leaflet targeted at sellers.

1.9 What standard must the CB be UKAS accredited to? Assume ISO 14065, the same as Woodland Carbon Code.

We are assuming this too, but are in discussions with UKAS, who will determine the most appropriate standard.

1.10 Why must the CB be registered with the Financial Conduct Authority?

We have assumed that this will be necessary on the basis of advice given to the Woodland Carbon Code, but we are in discussions with UKAS who will advise us on this.

1.11 Please note that UKAS accreditation will still need to be achieved for the Peatland Code even if accredited CB's are used. CB's have to apply for extension to scopes for all new activities.

We are in discussions with UKAS, and will go through the process of setting up accreditation during the pilot phase of the Peatland Code.

1.12 Quite technical/legal in some places but probably needs to be so.

No response required.

1.13 The presentation of the Woodland Carbon Code is far more visually appealing, compared to the plain text format of the current version of the Peatland Carbon Code. It may be worthwhile to improve the visual appeal of the document to increase publicity and informal circulation of the Code.

The Peatland Code will be put online with appropriate graphic design by September 2013

1.14 In terms of clarity and pitching it reads as if intended for readers who are already familiar with this type of project or activity. In particular, the term 'leakage' occurs several times (e.g. page 14) before finally been defined in the text on page 21, and fully defined on page 24.

A footnote has been added the first time that the term "leakage" is used, referring readers to the glossary. In more general terms, leaflets for buyers and sellers explaining the Code in simpler terms will address the issue of familiarity raised in this comment.

2. Does the Code and the overview/flyer adequately make the case for peatland restoration to potential investors?

2.1 YES

No response required.

2.2 The overview and flyer make a adequate case for peatland restoration to potential investors but the flyer, in particular, needs to be more attractive and significantly shorten in length. The presentation of why peatland restoration is important' and what the Code is all about are getting a bit entangled and as a consequence there is not a clear initial message in the flyer for someone new to the subject.

For example, in the introduction section of the flyer introduction, the code is refer to as ‘a help to fund peatland restoration’. This might give the wrong first impression. One suggestion here could be to mirrored the woodland code to make it clearer from the onset about what the rational being the code, e.g. “ *as a voluntary code will encourage a consistent approach to peatland restoration projects, and offer clarity and transparency to customers about the carbon and biodiversity savings that their contributions may realistically achieve*” (or something similar).

Both the flyer and the overview need to be illustrated and with fewer words if it is going to grab the attention of land managers and the investors alike. Land managers face lots of competing demands for their attention. How can we persuade them to take, or even consider, this option rather than, for example, a wind farm?

The section “on what to I get as “ is useful but again a bit too long and dry.

In the introduction section of the code, section 2.1 introduce the code as ‘providing ... regulatory basis for peatland restoration’. Although the code could be seen as supporting government and agency work, it will be misleading to introduce it as a regulatory basis for peatland restoration to wider audiences.

We have employed a communications specialist to re-write a much shorter version targeted at buyers and sellers – this will consist of a short leaflet (2 sides of A4 with lots of pictures) and a longer briefing note (4 sides of A4, less pictures). Both will incorporate professional graphic design and inspiring imagery. These more detailed comments (and those of others who have provided feedback to this question) have been sent to the specialist writing these leaflets to incorporate into the new text that is developed.

2.3 No, I do not think that a potential sponsor or landowner will be inspired by the wording of the flyer – it is too academic. A form of presentation & wording that will appeal to these separate and specialized audiences needs to be developed. The comments from Q1 apply. To attract investors the Code needs to be made accessible in Boardrooms. The paper prepared by HT & IUCN for the 2020 Climate Group in Scotland gets nearer to this.

See response to 2.2

2.4 The document clearly describes ‘tangible’ benefits in language that investors would understand. It is important that statements are clear and precise. We felt that this ‘sales pitch’ section was perhaps not best placed at the start of the standard but might be something that appears as a separate document/leaflet – leaving the standard to simply state what is required of projects.

This “sales pitch” was included at the start of the Code in order to get feedback, but the intention was always to turn this text into a stand-alone leaflet. In response to feedback, this will now be a series of leaflets of varying detail targeted at either buyers or sellers.

2.5 **WCC:** Within the overview/flyer and the rest of the document there is frequent reference to the UK Peatland Code operating in a similar manner to the Woodland Carbon Code. There are two differences it is important to point out. Firstly, given that the UK Peatland Code is still in the development phase and does not yet have all the elements in place it would be more precise to say the UK Peatland Code will, over time, operate in a similar manner to the Woodland Carbon Code. Secondly, it is important to point out the fundamental difference that the Woodland Carbon Code accounts for the net sequestration of carbon within the woodland (including biomass and soil) but does not account for the avoided emissions from the previous landuse, whereas the UK Peatland Code is accounting for the avoided, or reduced, emissions from the previous landuse and may over time account for sequestration if the project area becomes fully restored.

General references stating that the Peatland Code will operate in a similar way to the WCC have now been removed in response to this comment, although a one specific reference to the use of Woodland Carbon Code certification bodies has been retained.

2.6 **WCC:** It would be good if the document could be clearer in 'Why Peatlands' about the role of regulation in preventing peatland degradation. It is not entirely clear what CSR investors, and especially investors in pilot projects will be able to 'do' with the carbon 'credits' that a project may generate if they cannot use or report them in any way. Would their claim simply involve the restoration of peatland rather than an amount of carbon emissions saved?

This will be made clear in the revised text that is developed for leaflets.

2.7 **WCC:** Several places in the overview and later in the document appear to assume that all peatland would be restored to a state where it would again sequester carbon. We suggest that this will not always be the case and such statements should state 'restoration ... *may* result in bogs being returned to a sink status' rather than 'will'. It would also be helpful to clarify whether these statements account for all greenhouse gases (including methane).

The only mention of the word "sink" in the Code is in relation to land owners committing to maintaining project areas as permanent carbon sinks (section 3.2). Given that this may not always be possible (e.g. due to climate change or other factors), this wording has been changed to say that they undertake to maintain them as permanent peatland areas with agreed vegetation cover and water levels.

2.8 While peatland restoration may be easier and quicker than some methods of climate change mitigation, it is arguably not the easiest. Energy conservation, for example, would be the more attainable and rapid method.

No response required.

2.9 The overview states that intermediaries between the land manager and investor would have to be registered with the FCA. It would be helpful if this statement were clarified. Under the Woodland Carbon Code, we require someone who trades in carbon (i.e. buys carbon units with a view to selling them on) to be registered with the FCA but not a project developer who manages the project and brokers a deal between landowner and carbon buyer.

This requirement has now been removed from the Code.

2.10 No, it all seems to be couched in language that is too academic.

See response to 2.2

2.11 Again no. Potential investors are likely to have less knowledge than peatland owners/managers. The popular perception of carbon offsetting is planting trees. It needs to be explained as simply as that – with pictures.

See response to 2.2

2.12 Longer contracts may be negotiated – negotiated with whom? There would need to be a process in place which would provide evidence regarding the decision to the CB.

This was not meant to imply contract variations, rather that contracts over 100 years are in theory possible (there is no upper cap on length of contract) – this has been reworded to state that "longer contracts may be possible".

2.13 Do not feel [section 2.2] is worded in a clear way. Do not feel that [section 2.3] is auditable in its current form. The CB is auditing the peatland project not the investors in the project and certainly not the carbon footprint of the investors. The use of the word 'should' is not suitable from an auditing perspective – need to be specific.

Section 2.2 has been re-worded to make this clearer. Section 2.3 has been removed from the Code.

2.14 In section 2.4, 'Projects shall comply with the law..', for auditing purposes CB could only verify that there is no evidence of non-compliance with the law/ project has declared that they will comply with the law. Statement might perhaps be amended to reflect this.

The text has been amended accordingly.

2.15 [In section 2.6], has test 2 been tested, [and] is 15% an achievable amount? Why has a percentage of 15% been set? If it is just copying the WCC value need to think of an appropriate answer when projects ask why they must meet this arbitrary value. Barrier test can be very subjective hence their needs to be clear guidance surrounding it and it should be used only when absolutely necessary.

Test 2 has not been tested yet, but will be tested during the pilot phase of the Peatland Code's operation. 15% was selected to make the Peatland Code consistent with the WCC. We will seek advice from WCC re: the reasons they selected this figure.

2.16 The code by itself doesn't make the case.

See response to 2.2

2.17 Yes, but improve visual presentation.

See response to 2.2

2.18 I recommend that opportunities to invest in local capacity building should not be limited to the Prince's Countryside Fund because this is just one of many similar funds and local initiatives. For example, every National Park Authority in Britain, and every Board for each of the Areas of Outstanding Natural Beauty in Wales and England, each offer a Sustainable Development Fund for similar initiatives. In the Brecon Beacons National Park for example, this fund amounts to £200,000 per year of grant support to relevant causes; we are currently exploring options for this to be made available as an investment fund too. There will be other relevant capacity-building projects too, which are run under grant support from e.g., Heritage Lottery Fund, Entrusts, Aggregates Levy Sustainability Fund and so on. For example, the Brecon Beacons National Park Authority has recently been awarded £900,000 under the HLF Future Skills Fund to provide training each year for six trainee wardens. We are also, slowly, developing a partnership that may lead to a HLF Landscape Partnership Project, potentially involving several £millions, for an integrated conservation programme for the Black Mountains. This would include capacity building and skills development as well as peat-based habitat conservation.

We have discussed with Paul Sinnadurai (Conservation Manager, Brecon Beacons National Park Authority) how best to deal with this concern, and suggest offering a menu of opportunities via the IUCN UK Peatland Programme's website for the Peatland Code, whilst making it clear that investors can make their own arrangements beyond this menu. It would

be useful if there were some way of tracking the level of sponsorship that is delivered via this route.

2.19 Onsite branding may go down like a lead balloon; most upland moorland, where most of the peat-based carbon is stored, is in private ownership and a lot of it is on registered common land. All of this land will also be Access Land, for which an increasing range of recreation demands are also made. Branding might prove to be unpopular with the landowners, tenant farmers, commons graziers and the wider public. Landowners, tenants and graziers would also not want to feel constrained by brand demands.

We agree that this will not be an option for many sites, but it may be possible for some sites. We have therefore amended the wording to say “there are may be on-site branding opportunities with some projects”. However this wording is contained in the overview, which will be re-written by a communications specialist, and there is a chance that during the process of shortening the text, reference to branding may be removed.

2.20 Given the heavy emphasis that devolved administrations place on their agri-environment schemes for achieving integrated management, the code needs to place stronger emphasis on opportunities to match-fund these schemes. I have attached a paper that I prepared a few years ago in relation to Glastir, for how private sector funding might be used to add value to agri-environment schemes, which themselves might be re-deployed as business incubator capital rather than one off grants.

We have not increased the emphasis on this at present, but we will be actively be exploring the potential for this, in particular with colleagues from the Welsh Assembly Government in the context of Glastir (we have already begun this dialogue). Depending on the outcome of this during the pilot phase, we may increase the emphasis on this in the next iteration of the Code.

Eligibility

3. What are your views on contractual requirements for projects accredited under the Code e.g. minimum/maximum contract length, dispute resolution, issues around security of tenure and relationships between landowners and tenants?

UU questions re: climate change and viability of long-term contracts in Peak District are handled under our proposed risk assessment and adjustment of buffers and are unlikely to make long-term contracts in these areas viable

I have asked for advice re: dispute resolution.

3.1 Yes, all OK

3.2 Mostly fine although section 2.2 need some further attention. **Section 2.1.** Frequent use of “shall”. ‘Shall’ or ‘will’? Guidance Box refers to Section 3.4. Should it be 3.2?

Cross-reference has been corrected.

3.3 **Section 2.2.** Guidance Box: The definition of ‘peat’ is not the one commonly used in Scotland. The implications of this are not entirely clear and will need consideration. For example, it is stated that sites from which peat deposits have been lost are included. Surely some peat must remain to be eligible.

We also recognised that there difficulty in establishing comparable definition of peatland across UK (see JNNC report 445) but using the international soil classification will create additional difficulty for non-specialist users of UK soil. Published maps were established using national soil classification. To be useful to the non-specialist this guidance need to provide link to interpreted soil maps or additional guidance.

There is also some erroneous reporting on source of information. SSKIB soil map from the James Hutton Institute – this is mixing two sources of information the database SSKIB (which provide average soil properties across Scotland) with soil maps available at 1:250,000 for whole of Scotland and large resolution for part of the countries. It will be interested to have a preview of the best practices restoration guidance (in prep.) mentioned here.

The definition of peat has been changed to match the definition used in England and Wales and by the Woodland Carbon Code (50 cm) to ensure that the Peatland Code is consistent with the Woodland Carbon Code. This can be reviewed during the pilot phase, and if appropriate it may be altered to the Scottish 1 m (or some other) definition in future. Reference to SSKIB is now “SSKIB soil database and maps from James Hutton Institute (Scotland)”.

Best practice guidance will be available in rough draft in September, and will be available for contributions and revisions during the pilot phase of the Peatland Code.

3.4 **Section 2.4.** Should be clear from the start that “ownership” includes tenancy. Also may be an issue if tenancies shorter than Agreement. Guidance Box, 4th Paragraph – “PDD”? Mineral extraction rights could also be specifically included list of rights. In the second last paragraph, the implication of provision of equivalent area of new peatland restoration needs to be considered. Do this implies that restoration processes will start afresh on new area?

We are keen to distinguish between ownership and tenancy as tenants have significantly less rights and are unlikely to be able to enter into contracts without consent of owners – this is now clarified in the first sentence of this section. PDD has been explained (Project Design Document). Mineral extraction rights have now been included explicitly in the list (under rights of withdrawal). Yes, it is intended that restoration would need to start again on a new unrestored site of similar size. This has now been clarified to state that it should be of similar size and similar GHG mitigation potential, and that restoration would have to be initiated on a previously unrestored site.

3.5 **Section 2.6.** Requirement 3 – Investment Test. Needed to read this several times to understand. Need reworded to make it clearer. Guidance Box – Legal Test. Not sure what ‘finance unavailable’ means. There may, for example, be an agri-environment scheme which would fund such works, but if an application is unsuccessful then is that finance unavailable?

The investment test has now been removed. Finance unavailable would include if sufficient funding could not be raised from agri-environment applications, if this meant restoration was not financially viable. This has now been amended as follows (additions in italics): “...where *sufficient* finance has hitherto been unavailable to achieve these objectives (*whether privately or via agri-environment schemes*)...”

3.6 No comment, at this stage

3.7 Contracts should be of sufficient length to provide confidence that the benefits of peatland restoration will be maintained in the long term, i.e. providing adequate assurance of permanence. We suggest a minimum period of 30 years, and preferably 50 to 100 years. We do not think that there is a need for contracts beyond 100 years. This is consistent with other carbon standards.

Contracts between buyers (investors) and sellers (landowners/ intermediaries) should cover a number of issues. They may include:

- Assignment of carbon sequestration rights for the contract period, including any surpluses
- Duration of the project
- Definition/location of the land subject to the agreement
- Guarantee that management practices are carried out as laid down in the management plan
- Naming/ branding/promotional rights for investors / intermediaries (eg signs on display)
- Maintenance of public access
- In event of land sale, actions to inform buyers of the terms of contract and/or secure buyer agreement to observe this contract
- Provision of alternative sites if land ceases to be available for purposes of the contract
- Avoidance of technical claims about sequestration without prior approval
- Confirmation of periodic verification

Contracts are a matter for buyers and sellers to arrange and do not, in our view, form part of any code. Contract-related disputes are, therefore, a matter for the courts rather than for the body that will run the UK Peatland Code. We recommend, however, that guidance be provided (e.g. on the UK Peatland Code website) on the issues that any contract should be expected to cover.

Assurance of permanence is a key consideration when assessing eligibility. It is helpful if existing regulations, or legal instruments, can be used to provide assurance that peatland restoration is a permanent change in land management practice. The use of conservation covenants, as discussed in the consultation document, may help (but see further comment in Q5). Other sanctions or incentives may be possible to ensure that such management practices are maintained in the long term – these may include de-certification, cancellation of credits or ‘payback’ from the buffer for maintaining certification.

The Code now makes it clearer that disputes are outside the remit of the body governing the Code, and details the sorts of issues likely to be covered in contracts. The guidance under section 3.2 now details options including decertification, cancellation of credits and payback from the buffer.

Although WCC do not see need for contracts >100 years, we are suggesting that though this would be the normal expectation we would not wish to exclude longer contracts if both parties are agreeable, given the length over which peat forms and the objectives of some NGO land owners. We will retain the 30 minimum contract length on the basis of feedback, noting the warnings that this will limit participation in the pilot phase. Shorter contract lengths may be considered after the pilot.

3.8 Dispute resolution, who will be the impartial assessor? What factors will be used to ensure the contractual requirements are being met.

The Code now makes it clear that dispute resolution is not within the remit of the body governing the Code, and that disputes should be resolved via arbitration or the courts. However the Code provides examples of ways in which disputes may be resolved, as described in the response to comment 3.7.

3.9 **JW:** Dispute resolution, who will be the impartial assessor? What factors will be used to ensure the contractual requirements are being met?

See response to comment 3.8

3.10

- a. A significant part of peatland restoration Carbon budgets are avoided losses (e.g. prevention of erosion through bare peat revegetation) and transitional gain (e.g. short term build-up of sedimentation above gully blocking dams). These two factors can realise benefits in less than 10 years which is a more feasible timescale for many land owners and investors
- b. 3.a is also the land currently acting as significant sources of Carbon loss from upland peatland and therefore the larger benefits in peatland restoration. The so called “low hanging fruit”.
- c. 30 – 100 years is a reasonable time for active blanket bog to accumulate enough peat to make accounting worthwhile.
- d. 30 years minimum will still be too long a time period for many people to commit their land management practises, e.g. tenants with FBT’s.
- e. Climate change will make any current estimates dubious at the higher end – e.g. will the Peak District be within the climate envelope for active blanket bog in 80 years? Is there a penalty for participants if this is the case?
- f. Future uncertainties over market forces at these timescales will also act as a potential barrier to people signing up – e.g. the future of agri-environment schemes.
- g. It is unclear who owns the Carbon accumulated by active peatland – e.g. landowner, AHA tenant or sporting rights holder?

For the pilot phase, we wish to take a conservative approach, and given short-term methane production in some sites, we would like to set a minimum contract period of 30 years. However, shorter-term contract lengths will be explored as part of the pilot phase. We recognize that 30 years is likely to be too long for many landowners to be willing to commit land to the pilot phase, but we are keen to take a conservative approach during the pilot phase that optimizes the likelihood that the Code will deliver climate benefits, and there is sufficient land available from landowners who are likely to be content with long contract lengths to operate the pilot phase. Buffers will be increased for sites that are most likely to be impacted by climate change (e.g. Peak District). It is not possible to predict future market forces, and we accept that this may limit participation in the pilot phase by some landowners, however, once a contract has been entered into, it is binding even if the land could be used more profitably for another purpose that would conflict with the goals of restoration. Carbon would be owned by the buyer, who may in theory sell it to others in future via the voluntary carbon market (although this is not permitted during the pilot phase).

3.11 Important aspects that are necessary. It would seem difficult to include areas under tenancy and limiting to freehold might be less problematic and much preferred.

Although we expect that participants will mainly be freeholders, we do not want to preclude tenants who have consent from landowners to participate.

3.12 RICS has no strong view on the upper limit of 100 years which, in practice, could be regarded as perpetuity for many practical purposes. That said, we can also clearly see the case for a minimum term to be set, but would have concerns that a minimum term of 30 years for a concept, which is not familiar to the majority of landowners and is as yet untried, may prove too great a deterrent. In the interests of innovation and early adoption, RICS recommends reconsideration of this point to allow for shorter agreements during an initial period of development. This could, and should, be reconsidered as confidence in the code develops but, in the shorter term, may be an important attribute if contracts are to be attractive to a full range of landowners and managers. We welcome the recognition of the potential professional role for chartered surveyors in using the code.

We accept that the 30 year minimum is unlikely to be acceptable or attractive to many landowners, but we believe there are sufficient landowners who will be interested in contracts of this length for the pilot to operate, and contract lengths will be reviewed during the pilot phase.

4. The Code proposes that restoration on designated sites (which represent the majority of UK peatlands) would be considered “additional”, as restoration is unlikely without additional funding via the Code, despite the fact that in theory there is a duty to restore to meet condition targets. What are your views on this?

4.1 De facto, restoration is not occurring - so if csr funding encourages it, it will be additional. separately, the 15% finance threshold seem pragmatic but if (e.g.) on-going costs are the element paid for, then the longer the envisaged contract the higher the % contribution - yet the 15% contribution may not actually be realised for some time. does this matter?

Financial arrangements will be worked out in detail during the pilot phase, but it is anticipated that sponsors will provide costs up front, with these funds then being managed over the course of the project to deliver long-term maintenance.

4.2 - It is important to note that most UK peatlands are not designated. Only a relatively small proportion are. The issue on designated sites is not particularly different from that off sites as management would be funded through agri-env measures. It is just that in this context designated sites might be a higher priority there it cannot be assumed that designated site funding is always available.

No response required.

4.3 I think the Code's approach is fair. It is unrealistic to expect landowners and land managers to be able to fund peatland restoration without additional support.

No response required.

4.4 Our understanding is that the management objectives for international designated sites are already set, and that if such sites are not in 'favourable condition' then the landowner and Statutory Nature Conservation Agency are obliged to improve the condition of the site. The SNCA may help land owners/managers apply for funding schemes, and such funding schemes are already available, for instance through RDP Environmental stewardship, conservation enhancement schemes, etc. As such, the UK Peatland Code could offer a useful extra source of finance.

We think that clarity is needed on the particular aspect of additionality which is being tested. The document refers to the ability of the UK Peatland Code to bring in additional funding (therefore relevant to a financial/investment test), but the issue of designated sites refers to EU and/or UK legislation (and therefore relevant to a legal test). In other words, additionality requires the legal test to be passed as well as other tests such as the finance/investment test.

As currently set out, we think that it is difficult to argue that restoration on these designated sites could be seen as “additional”. A case for additionality on designated sites needs to be crafted very carefully. An inconclusive case could be damaging to the reputation of the UK Peatland Code. However, we do understand the complex arguments surrounding additionality – and that having a policy or requirement in place at national level does not mean that actions will be implemented in the absence of finance.

Although all the feedback we have received is positive regarding funding restoration on designated sites via the Code, we note the caution advised by WCC here. We have further clarified the wording under “legal test” in the guidance for section 2.6 accordingly, and it is made clear that the legal test in addition to the two other tests must all be met to demonstrate additionality.

4.5 Agri-environment payments are the primary delivery mechanism for favourable condition of designated sites. Annual agri-environment payments are based on the 'profit foregone'

principle because international agreements limit the State's ability to buy public goods from landowners. The peatland code offers the opportunity to positively pay landowners for the services they provide, on top of agri-environment payments that offset their loss of income, and this can potentially achieve much better restorations and continued delivery.

However there is a pressing danger that in a time of public sector cuts and reductions in CAP, mechanisms like the peatland code could be used to fill the space vacated by public sector withdrawal. The peatland code must link peatland restoration payments to agri-environment payments to emphasise the range of goods and services delivered and the importance of continued public sector support and commitment to legal obligations.

Promotion of a voluntary peatland code should avoid undermining the case for a compulsory peat levy on peat extraction by emphasising the difference between a voluntary corporate responsibility approach and an approach designed to discourage active destruction.

We are actively exploring the link between payments under the Peatland Code and agri-environment schemes as part of the pilot phase, in particular in relation to top-up funding of peatland restoration options within Glastir in Wales. We would expect that most landowners would want to maximise income by applying for agri-environment funding alongside funding from the Peatland Code, however we will explore how such arrangements may be co-ordinated in practice during the pilot phase.

4.6 Peatland sites are designated for nature conservation, not carbon. It is reasonable for additional investment in peatland restoration to maximise Carbon benefits in a shorter timeframe.

No response required.

4.7 Section 4.1 doesn't really need to be so long, all you really require is a complete and accurate PDD.

Section 4.1 simply summarises the content of the PDD.

4.8 The practicality is that funding may not otherwise be available.

No response required.

4.9 This depends on the budget and capacity available at SNH for restoration of site condition to favourable, and the amount that can be allocated to peatland sites.

No response required.

4.10 Entirely reasonable; the public purse doesn't have the £capital to achieve this core duty. However, I would add that carbon soils are effectively a new mineral asset for the freeholders, so it should be in their interest to manage this resource appropriately; for example by working more closely with their tenant farmers/graziers associations to achieve appropriate grazing and burning management of this resource.

No response required.

4.11 RICS would like to see how the proposal requirements work out in practice before committing to a clear view on this aspect. Our members raised concerns over the clarity of the purpose of the proposed Contribution of Carbon Finance test, particularly with regard to the potential for peatland management schemes which may derive their funding from a number of sources for multiple ecosystem service benefits.

The Code is now designed to explicitly be able to run in parallel with agri-environment schemes.

5. Do you have any other comments regarding the eligibility of projects under the Code?

5.1 NO

5.2 Methods to stop double counting is good.

5.3 No comment, at this stage

5.4 We agree with the principle that sponsors should reduce emissions at source wherever possible before claiming emissions reductions through peatland restoration (see p8). We have made the same point with regard to woodland creation under the Woodland Carbon Code.

However, we would like to see further evidence about whether a cap on the amount of GHG reductions a carbon buyer can claim would be a workable solution in practice. A 5% cap appears very low, and would limit investment from service-based industries who want to do the right thing, but do not have high emissions (for example, a regional Estate Agency who want to account for their travel related emissions). Also, it is not clear whether the cap would apply to the annual or the total emissions reduction of a peatland project, as a proportion of annual emissions of the investor. Unless a workable approach can be devised, we recommend that the cap is dropped.

The 5% emissions cap for investors has been dropped, for the reasons outlined by WCC and due to challenges of enforcing the cap in reality.

Section 2.2 on “Eligible activities” states on p9: “or species known to support the establishment of appropriate peatland species”. This sounds vague and is in danger of being one step removed from any impact on carbon stocks. We think that the ‘cause and effect’ must be clearly established; for example, it should be clear whether the establishment of such peatland species actually results in increases in carbon stocks (either through prevention of losses from degradation and/or formation of new peat). We also think that ‘appropriate’ species must be defined.

The reference to species that would lead to the establishment of peatland species has been removed, and the follow text has been clarified (additions in italics): “leading to the re-establishment of species *that are normally peat-forming, for example Sphagnum bog mosses and, where relevant, other species identified in designations.*”

Under the ‘means of verification’ described on P9, it will be essential to ensure that these methods would be adequate to show what previous land management practices (which degraded the peatland) had been. Otherwise, there would be no ‘baseline’ management practices against which practices aimed at restoration could be compared.

This text has been clarified in the introduction and guidance for section 2.2.

Under the Guidance in Section 2.2 on p9, we understand why all histosols are within scope (ease of definition). However, this would bring the majority of the uplands into scope (20% carbon and 40 cm depth), potentially allowing carbon credits to be generated in areas where the benefits of restoration would be more questionable. This could be addressed by being more selective about soil types (further guidance may be needed), or including a requirement that a fully functioning bog be restored.

With regard to the same issue (on P9), it should be noted that the Forestry Commission, following a public consultation and input from stakeholders, set out in both the UK Forestry Standard and the Woodland Carbon Code that the definition of deep peat is 50cm. We think it would be sensible to align the UK Peatland Code with this, so that restoration of peatlands would focus on soils with over 50cm peat – and woodland creation as per both standards, would occur on soils with less than 50cm. We would be concerned that using a 40cm threshold would mean that peaty-gleys and shallow peat soils would be included.

The threshold has been changed to 50 cm as advised.

The reference on p9 to forestry removal should include a link to Scotland's woodland removal policy (which is due to be updated soon): <http://www.forestry.gov.uk/woodlandremoval>, as well as any parallel guidance for Wales and Northern Ireland.

This link has been updated with information for Scotland and Wales and Northern Ireland have been contacted (awaiting replies) for links to their policies.

Section 2.3 on “Eligibility of sponsors” states on p10 that “Pilot projects accredited under the Pilot Phase of the UK Peatland Code are not to be used for offsetting purposes.” We think it should be made clear that, in terms of international carbon accounting under the Kyoto Protocol, such projects cannot be used for offsetting purposes. We also suggest that there should be a link in the ‘guidance’ section on p10 to Defra's Green Claims guidance and to Defra's GHG reporting Guidance.

The section on eligibility of sponsors has been removed. Under section 4.3 we have been explicit that “it is not acceptable to use climate benefits in formal corporate carbon accounting or for any offsetting purpose at this stage”.

The guidance on P11 refers to the potential to use Conservation Covenants in England and Wales. We understand that these conservation covenants are a new initiative which is still out for consultation; their use is starting, more especially in urban areas e.g. to protect listed buildings. The text should be clear that, in the context of the Peatland Carbon Code, these covenants are concerned with biodiversity and that the associated process has not yet been finalised.

This has been clarified in the text.

We have the following comments about section 2.6 on additionality:

- Test 2 differs from the Woodland Carbon Code by including income foregone in restoration costs? We question why income foregone is included, as this could make estimating costs more complex/questionable. It would also be useful to set a timeframe for the calculation of these costs (e.g. are they the costs over part or all of the lifetime of the project?).
- It is not clear why 15% has been set as the threshold for Test 2. We suggest that 15% is set as an initial threshold under Test 2 to allow for flexibility in future.
- The guidance on p13 states that “... where peatland restoration is partly funded by Government and partly funded through private sponsorship, it will not normally be possible to trade these GHG emission reductions on voluntary markets or include them in corporate carbon accounting.” If this is the case, it's not clear what the benefits of certification under the UK Peatland Code are for these projects. This also contrasts with the approach taken for the Woodland Carbon Code.
- There is some confusion about grant payments and payments by business sponsors. On p2, it says that (under bullet 2) “sponsorship is sought from businesses to cover the full costs of restoration, including ongoing costs...” Later on, reference is made on p4 payments, single farm payments and p13 to ELS and HLS payments.

- On p21, it is not clear how projects avoiding peat extraction will become additional at a later date.

In the contribution to carbon finance test (test 2), we mention income foregone only in the context of agri-environment schemes, which may interface with payments via the Code. The 15% figure has been further explained as recommended. We have now taken an approach to combined Code and agri-environment scheme payments that is consistent with the WCC, as suggested here. The use of the word “payments” has been checked and clarified throughout the document. The details re: peat extraction projects have been removed, and a simple statement has been included, stating that the possibility of including such projects in future will be explored during the pilot phase.

5.5 Restoring peat forming habitats may not be possible or even desirable in some cases, for example where the current overlaying habitat is Coastal & Floodplain Grazing Marsh (C&FGM). However it may be possible to re-wet C&FGM, thus avoiding peat degradation and carbon flux and also benefiting other wetland species, particularly breeding waders and wintering birds, and archaeological interest, without changing it into a different habitat such as fen. We would prefer that this were mentioned specifically as an eligible activity

Many of the peat voids in the Somerset Levels and Moors are so deep that reed bed and open water is the best possible option for restoration. Would these count as restored peat forming habitats under these eligibility criteria? Often there is little peat left in the void, so the avoidance of flux would be minimal.. We expect that the amount of carbon sequestered by reeds would be relatively insignificant making restoration not particularly cost-effective from a carbon point of view.

In the Somerset Levels and similar sites with minimal carbon benefits, given that the Code uses payments for carbon as its back-bone, this is likely to cause problems for monitoring etc. and would probably be easier as bi-lateral agreements between sponsors and landowners outside the Code. Where carbon gains are likely to be significant, we do not yet have adequate cost-effective monitoring methods. It is therefore proposed that restoration of lowland raised bogs and fens are not included in the pilot phase, but that this phase is used to actively explore monitoring and other needs associated with bringing these sites into the Code e.g. extending the GEST approach to these sites.

5.6 Defining the minimum peat depth as 40cm is confusing when other Codes such as Heather and Grass burning Code refer to 50cm. One depth (however arbitrary) should be agreed on.

See response to comment 5.4 – 50 cm will now be used.

5.7 The word ‘should’ is used instead of ‘Shall’ throughout section 5... shall is more appropriate with regard to auditing.

“Should” has been replaced with “shall” where relevant throughout the Code.

In section 5.3, ‘Monitoring Plan in place before project begins’... but projects could have started as early as 2010... would they have one in place before they began?

A footnote has been added as follows: “For projects that have already started, it would normally be expected that there will have been a monitoring plan in place with data collected from the start of the restoration work. Although baseline monitoring prior to restoration is preferred, it is accepted that this will not always be available.

In section 5.3, ‘Regular Intervals’ & ‘Regular Monitoring’... need to be specific.

Specifics are provided in the guidance box for this section – this is now referenced in the introductory text to avoid the impression of ambiguity.

In section 5.4, requirements should be direct and to the point any explanation can be in the guidance.

Details have been moved to the guidance section as suggested.

5.8 We could suggest a minimum WISE score??

Prioritisation of pilot restoration sites for the pilot phase Peatland Code will be informed by criteria developed for WISE scores, however in the operation of the Code itself, prioritisation of sites for restoration will be dictated by the market (taking into account minimum criteria for inclusion outlined in the Code).

5.9 Should be a basic area-based sponsorship option, based upon the unit area of carbon-rich soils (not just peatlands), which might be moderated by the following: peat depth (incentives for freeholders to commission surveys to find out), condition and conservation status of priority habitats, presence and conservation status of priority species (e.g., upland breeding birds, extent of climax *Sphagnum* communities, upland dragonfly/damselfly assemblage richness etc) and e.g., presence of rare or locally distinctive equines and rare breeds on the hill. The point here being that the Code should incentivise or reward other added values.

See response to comment 5.8.

Project governance

6. Are you satisfied with the measures proposed to manage risk and permanency of climate mitigation benefits? If not, what improvements would you suggest?

6.1 Yes, but are we concerned about leakage within the bounds of a project, the UK or internationally?

Leakage is considered within the UK only.

6.2 What about leakage of damaging activities/land-use changes occurring outside the UK – for example, getting money to restore cutover/extracted bogs in UK, whilst shifting production of horticultural peat to eastern Europe?

While this is a legitimate concern, it would be difficult to effectively monitor leakage outside the UK. However, by not including avoidance of extraction in the Code, it is hoped that some of the worst excesses (as exemplified in this comment) may be avoided.

6.3 Yes, although worth noting (Section 3.2 Guidance Box) that tree planting is not ‘natural’, and it can cause problems even if not within the same hydrological unit as seeds can blow across hydrological barriers. Also fencing to exclude deer can result in changed patterns of movement which may affect a restoration site.

Tree planting has been moved from “natural” to “external” risks, and a reference to deer fencing impacts has been added, as suggested.

6.4 Also (Section 3.2 Guidance Box) most of Scotland is not actually that remote. In addition, remote sites are less likely to be a priority for restoration due to the additional associated costs of getting materials and personnel on site. Also coastal peatland in Scotland may be at

risk of sea level rise. Change in atmospheric deposition rate may also constitute a risk to project success.

The reference to Scotland and England has been removed from this sentence, which now focuses on the relative size of buffers required for highly visited and drought-prone sites versus less visited, wetter sites. A reference has not been added to coastal peatlands, given that the Code currently focuses on blanket bogs, which are mainly located at higher altitudes. A reference has been made to changes in levels of atmospheric deposition under “external” risks.

6.5 It’s important that the UK Peatland Code provides adequate assurance of the long-term maintenance of net emissions reductions. Prevention of emissions reductions re-release over an indefinite period would be a more accurate definition of permanence than the stated 100 years.

The definition has replaced 100 years with “indefinitely”.

6.6 Linked to this, the proposed means of verification (para 3.2) would benefit from being strengthened, particularly in relation to securing continued commitment to permanence in the event of changes of ownership and beyond the project duration. It is also unclear how the proposed measures would help to ensure the permanence of avoided emissions.

The Code now lists the following as a means of verification of permanence (added text in italics): “Evidence of contracts requiring continued implementation of the Project Design Document by the land manager and requiring the landowner to inform future owners of the commitment to the Peatland Code and to seek ongoing commitment *to maintain agreed vegetation cover and water levels on a change of ownership or occupation*”.

6.7 In terms of risk management, further guidance will be required to clarify the metrics to be used in assessing projects against the proposed risk criteria; and whether or not the Code requires accredited surveyors to be engaged to undertake the assessment as this could add significant cost.

We are seeking advice on this point, and will clarify this during the pilot phase.

6.8 The proposed approach to managing the ‘GHG emission reduction buffer’ seems unclear and further guidance is required on aspects such as the circumstances under which projects can share or pool their buffer contribution and the nature of the losses to be covered (eg. how *force majeure* events are to be dealt with).

We are seeking advice on this point, and will clarify this during the pilot phase.

6.9 OK, within the limits of what is feasible

No response required.

6.10 RICS is of the view that registration, in a readily-available register, would be essential for the proper management and administration of land. The Law Commission is proposing that Conservation Covenants be permitted to register as a local land charge. This proposal has an advantage that this is a source of information familiar to most conveyancers and others called upon to advise on land management, purchase or transfer.

We have mentioned the Law Commissions consultation and are suggesting that these could usefully be used in contracts under the Peatland Code.

7. Are you satisfied that requirements for projects to consult stakeholders are appropriate and proportionate? If not, what improvements would you suggest?

Yes - although this may be quite burdensome, so who covers the costs?

This does seem quite onerous, although depends to some degree on means used. Some examples of appropriate means might be helpful, e.g sign on site, notice in local paper. Minimum of 12 weeks seems excessive

The area-based requirement for projects to consult stakeholders appears arbitrary, particularly as some smaller projects may still have a potentially significant impact (eg. restoration projects involving woodland). Alternatively, emphasis might usefully be placed on the project's potential impact with the guidance also referencing applicable Environmental Impact Assessment regulations. To assist project developers plan their consultation, it would be helpful to include a separate statement outlining details of the minimum required process for consulting rights holders and other key stakeholders (including appropriate means of communication).

Those who addressed this question felt the Code's requirements were too burdensome. We would like to retain a conservative approach for the pilot, but to make it less burdensome more detailed guidance re: specific expectations has been added to the Code. The area-based requirement has now been removed. The Code links to EIA regulations, but these do not cover all sites. The length of time available to consultees has been reduced to a minimum of 8 weeks.

8. Do you have any other comments regarding project governance under the Code?

8.1 NO

8.2 We are unable to offer any view on this

8.3 The UK Peatland Code will need to allow for the robust and transparent registration of both project details and carbon credits. This is essential to underpin the accurate recording, tracking and reporting of net GHG emissions abatement and also investor/market confidence. Many aspects of the current registry proposals lack detail and this is something that will clearly need to be addressed and given priority as the Code is further developed.

The proposal (para 1.2 'Using the Code') to require projects to gain independent validation/verification by an accredited certification body (in a similar manner to the Woodland Carbon Code) is welcome in order to ensure transparency and quality assurance. For the procedures to be effective however, the UK Peatland Code team will need to work closely with both UKAS and the certification bodies involved to develop, pilot, and finalise agreed procedures before any projects could be validated/certified. The certification bodies used for the Woodland Carbon Code have been accredited by UKAS for that purpose – a separate approval process would be needed for them to be accredited as certification bodies for the UK Peatland Code.

On 16 guidance on permanence and risk it would be useful to consider the impact of changing landuse on neighbouring sites and also better to think about 'the impact of landuse' more generally rather than only the 'impact of tree planting' under 'natural risks to the project'.

8.4 No comments on project governance. It all seems satisfactory for the purposes of the trial.

8.5 Natural risks to the project could also include habitat damage and changing species composition / abundance due to nutrient enrichment or acid deposition from air pollution.

Project and carbon credit registration and other issues around registry will be addressed during the pilot phase. We have opened dialogue with UKAS and one of the certification bodies used for the Woodland Carbon Code, and are seeking a budget to develop certification/validation/accreditation procedures with them during the pilot phase. We have

broadened the reference to tree planting and added a reference to acid deposition under “external risks”, as suggested.

Documentation

9. Are you satisfied that project management guidance is appropriate and proportionate? If not, what improvements would you suggest?

9.1 The guidance seems ok, but are we envisaging that third-party expertise is likely to be deployed to actually work-through the application process (including consultation) and subsequent monitoring activities? are such transaction costs included in project costs (i.e. the 15% contribution) and/or will somebody else cover them?

9.2 Again, as in question 7 this seems quite costly. May need to moderate according to scale of works. Template documentation and/or worked example would help. We are not aware of any evidence that restoration reduces wildfire risk – although might reduce potential impacts of wildfire.

9.3 It would be useful to see your template documents (eg Project Design Document) to comment upon whether they are suitable. Experience from our pilot suggests that these documents will evolve with useful input from both the projects and the certification bodies to make them fit for purpose.

Frequently we have noticed that links to further information only relate to guidance available for England. Guidance for Wales/Scotland/Northern Ireland also exists and should be referenced.

9.4 Seems quite detailed

We are anticipating that third party expertise will be used to work through the application process and conduct monitoring, and it is expected that this will be costed into projects. This would be included in the 15% contribution to project costs.

A Project Design Document has now been produced, although incomplete (it will be completed as part of the pilot once the GEST approach has been turned into a standardized field monitoring protocol). The reference to wildfire risk has been removed.

Where possible links to further information relating to Devolved Administrations has now been added.

10. Do you have any other comments regarding documentation under the Code?

10.1 NO

10.2 Again it will be interesting to see their good practice guidance. Relocation of peat. I will be worse to explore further if it is a good idea to totally rule this out. There have been development cases where movement of peat is beneficial to aid restoration : infill of deep ditches: but it could that such practices should not be encourage and the premise is that peat should be left in one place. Other case could is peat as already been displaces e.g. from the cleaning of a reservoir could that be used in restoration projects.

Best practice guidance will be produced in draft by 10 Sept and will be further developed and refined during the pilot phase. The development of this guidance will be overseen by a Technical Working Group. Natural England have been invited to chair this group. This will in turn be overseen by a Steering Group.

10.3 With the Woodland Carbon Code, we have found it necessary to produce a template document for almost every document that we'd want projects to submit for as evidence at validation/verification. This aids consistency and makes validation quicker and easier but also provides the projects with more structure – so the task is less onerous for them too.

In 4.1 p19 above principles, we think it important that adequate evidence is provided to support 'clear and accurate' statements about changes to carbon flux in peatland restoration. The timescales involved need to be fully understood and account taken of any 'spikes' in GHG emissions (CO₂ or methane) during the restoration process?

4.1f – We don't think it is possible to identify the verifier for the lifetime of the project – projects would presumably be free to choose the best verifier at each verification.

In 4.2 Management Capacity – Guidance – The hyperlink is for England's open habitat restoration policy. It would also be useful to link to the imminent Practice Guide: 'Managing open habitats in upland forests'. Also links to the FC pages on forestry regulations including EIA regulations – ie a comment about requirement of felling licence for removal of trees, and a general presumption against permanent deforestation.

4.3 Carbon Statements & Reporting – On p22 the net emissions savings also need to be adjusted for the baseline – not just the leakage (The baseline scenario – emissions on the site over the project duration without the project, leakage – emissions over the project duration outside the site as a result of the project. and the project's emission savings will change through time and all need to be accounted for over the lifetime of the project).

Although the pilot will test the 'process' of the UK Peatland Code, presumably it will only be able to test 'validation' of the project and not the subsequent monitoring and verification.

Where there is reference to the UK Peatland Code logo, it's essential that there is not suggestion that this is trademarked prior to this being the case – We have found that the Intellectual Property Office is very particular about claims on 'trademark' status. We are content with the re-design of the UK Peatland Code logo in the consultation version. 'Rules of use' of your logo will be needed, and should be in place if you do wish to trademark your logo. Happy to help or comment on these.

Reference to verifier for the duration of the project has been removed under 4.1f. The "Practice Guide: Managing open habitats in upland forests" does not appear to have been published yet, but this link can be added at a later date. We have noted the need for felling licenses and the presumption against felling in footnote 6. Projects are now advised to adjust for the baseline as well as for leakage. We have removed all reference to "trademarks".

10.4 In the 'Restoration and maintenance techniques' section we would like the raising of water levels in C&FGM on peat soils as an option. We understand the arguments why avoidance of peat extraction can't be considered at the pilot stage. However avoiding extraction would make new sequestration more viable. When all the peat is extracted from a void it limits the options for restoration to reed bed and open water and the restoration of peat forming habitats becomes a very long-term aim. The more peat that is left in a void the greater the opportunity to restore peat forming fen or even bog habitats. It would be a shame to miss the opportunity to incentivise shallower excavations and therefore better restorations.

See response to comment 5.5.

10.5 No comments on documentation. It all seems satisfactory for the purposes of the trial.

No response required.

10.6 It will be useful to have the link to the template PDD as shown on page 20 but not yet working.

See response to comment 9.3.

Monitoring climate and other benefits

11. Are you satisfied with the principle of using proxies to cost-effectively infer changes in GHG emissions using the Greenhouse Gas Emission Site Type (GEST) approach? Do you have any comments on the proposed methodology?

Summary response: UK GEST estimates should have been published in June – **need to chase with Ruth/Jane. Need to more completely define what counts as degraded peat** – this could be done during the pilot, given that we won't allow controversial sites into the pilot. We can (hopefully) use the same justification that the German group have used re: DOC/POC, Nitrous Oxide and methane emissions in the GEST approach – need to discuss with them to articulate this appropriately. Suggest to discuss WCC comments re: GEST approach in more detail with MAS in first instance. **Where restoration activities are not covered by the GEST approach, how do we suggest monitoring is done? Or should we restrict to restoration activities covered by the GEST approach? Need to find out where we can get relevant discount rates.**

11.1 Will baselining (and progress monitoring) be based on one year or averaged over several, to account for year-on-year variation around a trend? and will an upward baseline trend attributable to climate change be assumed? (it makes a difference to emissions avoided)

The GEST approach will overcome the need for multi-year average baselines as vegetation composition does not fluctuate significantly from year to year.

11.2 I think it needs a definition of what counts as degraded peat – ecologically in terms of GHG emissions and also what is and isn't eligible within the code. Is totally wasted arable fen peat in East Anglia as eligible as recent upland grip blocking. The HGH and biodiversity benefits (absolutely and per pound) are very different from these two examples. I fully support the use of GESTs for the assessment of emissions changes, as used in Belarus and the VCS standard, but in order to judge the appropriateness and degree of confidence in estimates, and therefore likely changes, it's necessary to see the UK GEST estimates – when will they be published?

Lowland raised bogs and fens won't be included in the pilot phase. The UK GEST estimates have now been published on the Natural England website here: http://randd.defra.gov.uk/Document.aspx?Document=11329_NE0136_TechnicalAppendix.pdf

11.3 Generally yes. Principles promoted in this code should align with approach used in IPCC and other national accounting schemes. In Section 5.1, establishing of a carbon baseline as presented here only considers GHG emission baseline and initial land use change carbon stock loss. Should initial and change in soil carbon stock be recorded?

The GEST approach accounts for changes in GHG emissions, not carbon stocks.

11.4 The GEST approach is adequate as a first approximation of greenhouse gas emissions for 'Corporate Social Responsibility' projects – i.e. where restoration of the site is the key objective rather than quantification of greenhouse gas emissions savings. However, the methodology must include nitrous oxide and methane emissions as well as carbon dioxide; there also needs to be clear evidence that the GEST models, which have generally been developed in different climatic regions to the UK, are applicable to UK peatlands. It is right that this development of the science and accounting/monitoring methodology is a focus of the pilot phase of the Code. A further aspect of the methodology that should be addressed through the pilot phase of the Code is how dissolved and particulate carbon (DOC and POC)

are accounted for; this may simply be by taking the position that restoration will reduce losses through DOC and POC but, since they are difficult/impossible to quantify at a project level, they are not accounted for in the emissions savings associated with the project (i.e. taking a conservative approach).

If later phases of the Code move towards the support for carbon trading, the GEST approach will come under more scrutiny as investors will expect GHG emissions savings to be verified. There will therefore be a requirement for robust and 'tight' relationships between vegetation type and GHG emissions to be demonstrated (under UK conditions) through the pilot phase of the Code.

The approach of comparing the GHG emissions of the restored site with a reference (baseline) scenario is appropriate. However, the baseline will need to be dynamic to reflect improvements in scientific understanding and future changes in environmental (including climatic conditions); part of the verification process must be to update both project and baseline GHG emissions estimates on the basis of current knowledge and environmental conditions at the time of verification.

International accounting methodologies (i.e. those applied by UNFCCC) will need to be considered when they are finalised, to ensure consistency between project and national level accounting. This may become an issue if national accounting is on the basis of gross emissions for restored peatlands that were drained prior to 1990.

It is difficult to comment further as Natural England's Preliminary GESTs for UK peatlands do not appear to have been published and the link in the draft Code is not active.

If tree removal is possible as part of the project then the loss of carbon stock at the start of the project should be accounted for in the project carbon sequestration, and the carbon sequestration which would have occurred in these trees should be accounted for in the baseline scenario over time. The Woodland Carbon Code carbon calculation tools could be used to quantify this emission / sequestration. Equally it is unclear whether the baseline and project carbon sequestration cover GHG emissions from eg livestock, fertiliser application or site management. This should be clarified.

It would be helpful to provide more detail and clarity on how leakage will be accounted for.

These questions are addressed in the following report:

http://randd.defra.gov.uk/Document.aspx?Document=11329_NE0136_TechnicalAppendix.pdf

11.5

- a. We haven't seen enough evidence that vegetation and water table depth proxies would provide complete enough data for the purposes of the scheme. We feel that more research is needed to verify this.
- b. The variability in blanket bog water tables over comparatively small areas will make this a difficult factor to measure.
- c. Fluvial Carbon flux is a significant element of peatland Carbon budgets and should also be monitored.
- d. The code doesn't define vegetation monitoring, but for this purpose we believe that it needs to be very detailed.
- e. There needs to be agreed standardisation for monitoring protocols, as well as research protocols.

These questions are addressed in the following report:

http://randd.defra.gov.uk/Document.aspx?Document=11329_NE0136_TechnicalAppendix.pdf

11.6 I can't see realistically, how else it could be done. On the ground measurement is out of the question. I would like to know a bit more about the basis of any GEST values.

These questions are addressed in the following report:

http://randd.defra.gov.uk/Document.aspx?Document=11329_NE0136_TechnicalAppendix.pdf

11.7 A simple outline or example of the vegetation proxy method would be informative in the Code. It is difficult to give informed feedback without reference to the Natural England GESTs, or having other further information on this approach.

I would like more information on the uncertainty in the calculations of GHG emissions using the GEST approach. There is very little information in the Code document on the technical details of predicting the emissions. The Code gives the option for the use of direct observations using eddy covariance and/or closed chambers, however, I find it hard to imagine when a company would find it cost-effective to do this when they have the option of using vegetation proxies.

Is there guidance given on acceptable models or modelling approaches that can be used? Where is this guidance found?

Will there be a simple estimate of likely emissions savings arising from each of the proposed restoration activities, in typical peatlands in the good practice guidance or other PCC guidance?

Are all of the accepted restoration activities covered by the GEST approach?

Under section 5.2 Carbon leakage, actions needed if leakage occurs within the UK is addressed, but actions required if the restoration leads to peatland damage outside the UK are omitted.

Section 5.3 Monitoring climate benefits is mislabelled as 4.3. In this section, it refers to “relevant discount rates” when discussing monitoring plans, but does not clarify what this refers to nor provide reference to where further details can be found. Please also include an active link to the GESTs for UK peatlands published by Natural England referred to on page 26.

These questions are addressed in the following report:

http://randd.defra.gov.uk/Document.aspx?Document=11329_NE0136_TechnicalAppendix.pdf

Modelling approaches will need to be evaluated on a case-by-case basis, if they are proposed by projects for monitoring. We do not think it is realistic to attempt to monitor leakage internationally, although this is a valid point. Section numbering issues have been sorted. The UK GEST approach is now linked from the Code. Relevant discount rates will be determined as part of a financial modeling exercise planned as part of the pilot phase.

12. Are you satisfied with the way co-benefits are included, including the limited level of quantification and the leaving the possibility open to market some of the co-benefits in future e.g. via biodiversity offsetting?

12.1 Formal baselining and monitoring of co-benefits would be better - although this would come at a cost

12.2 Yes, but again some concerns over costs of monitoring

12.3 The guidance and requirements for biodiversity improvements and monitoring are too thin, and more needs to be made of this. After all, it's an initiative being largely brought about by nature conservation agencies and not just for climate change benefits. Add some links and examples of best practice monitoring, and organisations who can advise – reliance on EIAs and statutory designations will not do the job.

12.4 We think this is an important aspect of the Code. The co-benefits (and dis-benefits) delivered by restoration are a key component of the project and there should be a strong narrative explaining exactly what these are. These might or might not come from an Environmental Statement – but there is a risk in making such a strong link between the two.

An alternative approach would be to develop a core script on the specific benefits of restoration projects in specific circumstances. In time, these could be replaced by metrics as scientific and economic research progresses. The current focus on Ecosystem Services at a policy level suggests that there is merit in extending this approach to wider land use and land management, including through the Woodland Carbon Code. For information, the Forestry Commission is in the process of commissioning a pilot study on quantifying/regularising the ecosystem service claims of Woodland Carbon Code projects. Under guidance, the likely requirement for an EIA for projects involving deforestation should be highlighted.

12.5 **DL:** Selling one easily monetisable ecosystem services such as climate regulation could have detrimental effects on the provision of other ecosystem services. We need to find mechanisms capable of delivering a balanced range of services appropriate to the locality. The DEFRA document 'Payments for Ecosystem Services: A Best Practice Guide (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/200920/pb13932-pes-bestpractice-20130522.pdf) suggests three different mechanisms for ensuring that a range of services are prioritised. One mechanism, 'Piggybacking', where a buyer purchases one ecosystem service as an umbrella for a range of less easily monetised services derived from the same piece of land, seems a good mechanism to ensure that the carbon aspects of peat restoration don't override other less easily monetised ecosystem services.

Piggybacking seems a more appropriate approach to peatland restoration than the 'co-benefit' approach suggested in the paper. Schemes should be positively encouraged to consider a range of ecosystem services and explicitly piggyback these together, even if it is the carbon related services that primarily attract the sponsor. Since the peatland code in its pilot phase is about corporate responsibility rather than carbon trading it makes sense to promote a full range of benefits, not just carbon.

12.6 Peatlands provide various ecosystem services and it is reasonable to value and cost these separately. The Code does not appear to recognise that water quality benefits can also be counted as Carbon benefits.

12.7 Something for future development; here we focus on carbon

Most responses recognize that more formal monitoring would be useful but that it would be too costly. Links have been made to relevant agencies to advise on biodiversity monitoring. WCC suggest a pragmatic way of making these benefits/disbenefits more explicit via the Environmental Statement. The Code now suggests that where detailed monitoring is not possible, projects may create a narrative based on evidence from Natural England's Upland Evidence Review for the [restoration of blanket bog](#) (NEER003) (and more recent evidence as appropriate) and include this in their Environmental Statement.

DL mistakenly suggest the Code should follow a piggybacking approach, meaning that we should be bundling services – probably worth linking to this terminology to be explicit and link better to the Defra PES guide.

We will not work extensively with commoners during the pilot phase given the complexities, however we will discuss the option to work with an existing pilot on common land with Welsh Government, to explore what these issues might entail during the pilot.

Based on NE feedback, latest evidence from the Natural England evidence review and a desire to take a conservative approach during the pilot we will advise that no burning can occur in pilot projects.

The Code will currently focus on blanket bogs, and not lowland raised bogs and fens.

Reference to SWW and South Pennines has been deleted from the Code.

Establishing the registry and getting accredited by UKAS will take time and money, which is currently being sought. The pilot phase will last as long as it takes to get these established.

We have removed “projects that seek to avoid peat extraction” from the list of activities that may be included at a later date.

Yes, we have replaced the VCS link with UK GEST link.

The layering of biodiversity offsets on top of peatland restoration projects is highly unlikely but it was recommended that we include this to make it possible to explore this on a case by case basis, rather than making biodiversity offsets ineligible across all sites in the Peatland Code.

Agreed: more detail on reporting co-benefits would be useful in guidance re: preparing environmental statements, but not to the level of “calculating” these, to avoid unnecessary complication and costs. It is suggested that this is done on the basis of evidence from Natural England’s Upland Evidence Review.

13. Do you have any other comments regarding monitoring of benefits under the Code?

13.1 Have indicative on-going monitoring costs been estimated? they might be quite high.

We will do a detailed financial modeling as part of the pilot phase.

13.2 It will be good practices is outcomes of any environmental monitoring undertaken as part of this code could be made available through current nationale environmental monitoring and reporting scheme (e.g SSDW in Scotland or similar webbase INSPIRE compliant website and database).

We will investigate this as apart of the pilot phase.

13.3 We need much more monitoring, not just to verify carbon budgets, but to inform future management and restoration. The entire management and risk plan needs to be monitored – including e.g. damaging recreational activities or wildfire risk management.

Regular monitoring of climate benefits is planned (see guidance under section 5.3) and risks are to be re-assessed at the same interval.

13.4 What does the Ecological Site Classification entail? Is this an NVC survey? How does it fit in with the GEST approach? It’s not defined in the document or in the glossary. Under means of verification heading in section 5.1 Establishing a Carbon Baseline, the second bullet point “For baseline conditions, carbon baseline conditions in Project Design Document” is ambiguous and uninformative, please clarify.

ESC has been replaced for NVC survey. A more detailed Project Design Document has now been provided.

Overall

14. Do you have any comments on the overall proposed approach to the first (pilot) phase of the Peatland Code?

14.1 How are costs to be determined? are we envisaging "standard costs" akin to agri-env schemes, or are they to be negotiated for each project? if the latter, then it is difficult for to know in advance what a given csr budget might actually buy?

Costs are to be based on the costs of restoration plus all additional expenses (e.g. maintenance and monitoring), and these will differ from site to site. Market research suggests that the CSR market is used to “bespoke” products like this, where prices and co-benefits vary from site to site.

14.2 YES

14.3 The Code is an essential step forward. What has been produced is impressive, but it needs additional documentation if it is to get beyond academics and get support from those who might support and implement it.

14.4 The UK Peatland Code is a useful contribution to promoting peatland restoration and helps to increase the profile of peatlands and broaden the recognition of land-use projects in the UK's voluntary carbon market. It also helps to promote the contribution of peatlands to helping meet Climate Change targets and emissions abatement more generally.

We welcome the overall approach and it appears to mirror closely many of the features of the Woodland Carbon Code. However, it's misleading to state (1.2 Using the Code) that it's possible for projects to gain certification at present. We suggest this first (pilot) phase of the Code should concentrate on further developing the infrastructure for the Code eg. the science; supporting models/abatement estimates; registry functionality; accreditation of validation/verification bodies etc.

This text has been revised as follows:

“Initially the Pilot Phase will focus on further developing the infrastructure for the Code, including: testing and refining GESTs and developing a standardised field protocol for vegetation monitoring; developing registry functionality; and developing relevant procedures with accreditation of validation/verification bodies etc. These added functions will be developed by working closely with selected pilot restoration sites, with whom we will work towards validation and certification”

14.5 The Ecosystem services provided by peatlands are very significant and we welcome this trial to provide a monetary value to those services.

14.6 If it results in further restoration (additionality) then all well and good

15. Do you have any other comments on the Peatland Code which you would like us to take into account?

15.1 A couple of thoughts spring to mind putting myself in the place of a non-technical reader... such as, will the final version have pictures? I hope so! And another other thought really is on the tone and who the doc is directed to? At the moment it seems like a mix of an explanation about the code and its background, alongside an indication of what it is about for people who might want to take part in such as scheme. Are you going to write a separate doc 'selling' the opportunity to investors? If not, maybe it would be good to strengthen the sell in the flier doc so that people who are thinking of taking part get a real feel for why they should go for it. Fr example, thinking on 'what do I get as a sponsor'...my question is how long does it take to restore peatland? Will I still be alive to see it? How long does it take to see carbon capture/ peatland plants grow back/ other visible benefits?

See response to comment 1.2 – a separate leaflet will be produced with graphic design.

15.2 Generally content with the draft, subject above comments are implemented. Also note that the glossary is very useful.

15.3 In order to make the code more digestible, could the Code be split into sections aimed at different audiences, principally landowners and sponsors. It might be preferable to leave the existing Code but then provide some interpretation in simplified form that is aimed at different audiences. There needs to be answers to the questions that anyone showing interest in peatland restoration, as a landowner or sponsor, will ask initially. What will be in it for them? If they want to know more information, they can then be exposed to the full Code. The Code would benefit from some input from contractors with experience of carrying out peatland restoration work. Has some form of practical guidance about what peatland restoration

involves on the ground. This would be of great value to landowners and managers. Case studies from the Pilot Schemes would also be of great value.

See response to comment 2.1.

15.4 The Woodland Carbon Code steering group are very happy to assist the UK Peatland Code team during this next phase of development.

Thanks for the useful feedback and ongoing support.

15.5 We understand that the majority of peat is in upland blanket bogs and therefore this will be the prime focus of the peatland code. However we would like to see some additions to the restoration options to make the code a little more relevant to a lowland situation.

In the pilot phase it will be very important that monitoring is sufficient to demonstrate climate benefits. In the delivery phase there is a danger that legal and monitoring costs could make some smaller schemes less viable. Eventually, once the climate case has been made and proxy vegetation covers shown to be accurate, it will be important to make the schemes as cost effective as possible. Monitoring, consultation, legal agreements, etc should be proportionate to the size of the project.

A codified approach is essential to make progress in protecting peatlands however it needs to be seen as more than an academic exercise to engender much wider support and investment. What happens on the ground is important.

See response to comment 5.5.

15.6 Great to see progress on the Peatland Carbon Code. Unfortunately I have not had time to study it at length, but I have a few quick comments for consideration, which I hope are useful.

Assuming this is what is meant, and to avoid ambiguity, section 2.2 could state more clearly that eligible activities are only those which involve re-wetting, or re-wetting in combination with other land management change required to re-establish peatland species. If that is not the intended meaning, clarification is required.

This wording has now been adopted in section 2.2.

Again, under 4.2, it could be made clearer whether for a project to be eligible, it must require all or just one of the four restoration techniques.

This has been clarified now.

Has thought been given to shallow peat soils (i.e <40/50cm)? Restoration, protection of and sequestration from shallow peat soils will still provide carbon benefits, though less than on deep peats. Some shallow peat soils whilst not deep, can be extensive. How does the IPCC guidance on wetland emissions due out later this year deal with shallow peat soils, and is there an intention to build this in to the code when available? In particular, degraded shallow peat soils on bedrock stand the potential to totally lose their soil coverage. The Lake District has around 65,000 hectares of shallow peats which could potentially be excluded, depending on what depth is decided.

Based on feedback from WCC and others, we have adopted the same threshold peat depth as the Woodland Carbon Code, but will consider shallower peat soils for future phases.

Similarly, where the guidance under 2.2 states that “for the purposes of the Code, peatlands include sites where peat deposits have been lost due to human activities...”, it would aid fair interpretation in stating that these must also at time of project start be greater than 40cm in depth.

Under 2.3, the code limits sponsors of land based projects to sponsoring a maximum GHG emission reduction of 5% of their total GHG emissions. From what I can see, this is more stringent than the Woodland Carbon Code, which does not appear to specify a limit on a company's sponsorship. As the Peatland Carbon Code will not be used to 'offset', at least in this phase of its development, it does not seem necessary to limit a company's sponsorship if there is also a requirement (as in the Woodland carbon code) that they are also taking steps to understand and reduce their emissions. Inclusion of the 5% rule could potentially restrict willing sponsors, and it is not clear what is to be gained from including this rule when sponsorship is undertaken for CSR (corporate social responsibility) reasons, rather than 'offset' reasons.

This requirement has now been dropped from the Code.

15.6 At Dinsdale Moorland Services we are looking to exploit our academic research of reliably measuring depths, density, moisture content and carbon sequestration within peatland in a commercial setting.

15.7 We think this is an interesting start and hope it can be developed further.

15.8 It is not clear whether avoided losses and transitional gains are included in the scheme. A severely degraded blanket bog, with large areas of bare peat bare peat and extensive gullying, requires a huge investment and potentially decades before it begins to actively accumulate Carbon from the atmosphere. It is unlikely that this scheme would provide the funds needed for this work without including the above factors in Carbon budgeting.

These are included in the GEST approach – see:

http://randd.defra.gov.uk/Document.aspx?Document=11329_NE0136_TechnicalAppendix.pdf

15.9 The wording of the document needs to be clear, concise and specific. Any ambiguity makes auditing to the code more difficult; there need to be clear statements of what is required. The requirements must be auditable and appropriate evidence must be available for each requirement. Any explanations can be contained within the guidance.

Wording has been tightened throughout.

15.10 What you term co-benefits and I have previously seen as stacking of ES is clearly crucial to generating the full benefits of PES approaches for land managers. Ensuring that schemes enable payments for carbon, water, biodiversity from different sources is likely to be key to making the approach work, despite adding complexity. In our case we might in the future hope to see payments from carbon schemes, payments from the water industry (for storing, regulating and cleaning) and payments from the taxpayer (for biodiversity).

Yes, the Code tries to keep the option of stacking payments for biodiversity open in future.

15.11 The issue of permanence extending beyond contract duration is a challenging one...our bogs are only 3000 years old and so the definition of permanence is difficult to align with this plus introduces a host of issues around long term liability beyond the time any payment is made.

The definition of permanence has been revised.

15.12 In our situation molinia is perhaps our greatest reason for poor condition and our (poor) understanding of how best to manage this in the face of changes in grazing and external pressures such as N and acid deposition raises for me issues around ensuring flexibility in determining both reactive and proactive management and the space (despite the best intentions) to get it wrong.

Restoration of Molinea dominated areas has not been included in the Code at present due to the insufficient evidence of GHG emission reductions after converting back to peat-forming

vegetation. It may be possible to include this sort of restoration once more information is available to inform site types in the GEST approach.

15.14 RICS welcomes the approach taken to the development of a pilot code; in particular the commitment for practical pilot work for a year with an opportunity then to review progress and assess lessons to date. It is the view of our members that is imperative that new initiatives are tested and trialled very carefully. We believe that the code makes a clear case for itself, while conceding that investors may take some persuading at this stage to invest in schemes widely. However, given the desirability of pilot work, it may be appropriate for a limited roll-out in the first instance while the Code has an opportunity to prove itself, and to leave enough scope for further development and fine-tuning.

The pilot phase will provide a limited roll-out.

15.15 RICS agrees that the Code has the potential to be a very helpful contribution to promoting peatland restoration. However, our members have raised concerns over the equal desirability of encouraging the active management of peatland which is not in need of restoration. While appreciating that this may not provide the same extent of additionality as the restoration of damaged peatland, it is nevertheless the case that active management of existing peat, in good condition, will continue to protect the atmosphere, will recognise longer-term commitments to good peatland management by land managers, and secure the on-going sequestration of carbon from actively managed peatland. RICS would welcome the continuation of this dialogue on the development of the Code.

We recognize the need for this, and will explore options (e.g. similar to REDD+) during the pilot phase.

15.16 **Land tenure:** As we discussed there are sensitivities about this issue, particularly in relation to common land. At this stage the code needs to be very clear that the supplier is the “owner of the carbon” and that the code is not determining this in anyway. At present it reads as the supplier being skewed towards the “land owner” rather than the tenant or commoners (who often have turbary rights and may own the carbon). There are some ambiguous bits about “consulting” commoners which could potentially be taken as, the Lord of the Manor (for a common) getting the payment, rather than the commoners. We appreciate the practicalities for restricting eligibility at present to single owners rather than groups. However we would be keen to see the pilots exploring how the code could work in different tenure situations including on commons, with tenant farmers, freehold farmers as well as large estates and NGOs.

We are explore a range of pilot sites including some where we can explore issues around working with commoners and tenants.

Burning: As discussed, in line with the ambition of the highest environmental standard for the code, it needs to state that no burning can occur, rather than just reductions in burning frequency. We don’t have conclusive evidence that burning, even at low frequencies, is not affecting C storage and sequestration and need to take a precautionary approach for the pilot phase of the project. This also enables clear definitions of what is permitted within the code with respect to burning and reduces the risk of loss of carbon due to managed burns getting out of control.

This change has been made.

C Metric: It needs to be made very clear that Mas’s metric is of first order estimates and further work is needed. The code’s references to NE publishing the metric make it sound as though we have already approved it for use. It also needs to be made clear that this work on the development of the metric to date is NE and Defra funded work, not just NE.

The text preceding the link states that these are “preliminary” GESTs and the subsequent text emphasises the need for them to be tested and refined.

Payments for other ecosystem services: Further clarity is needed in the code to ensure additionality in relation to payments for other ecosystem services, which could be achieved by the same management actions (e.g. Page 14).

The Code focuses on payments for climate regulation (carbon), bundled with payments for other services, and does not attempt to layer payments for carbon with payments for other services that could be achieved from the same management activities. However, we have left the option for biodiversity offsetting from peatland restoration sides under the Code open, to be considered on a case-by-case basis.

Past and current management: Recommend that consideration of past and current management is also included within the description, management plan and monitoring sections of the project documentation.

This has been done.

EIA and ES: P20 other provisions for assessing environmental impacts need to be considered if an EIA, ES or Habitats Regulations Assessment is not available.

This is already stated in the guidance for section 5.4.

Page 4: need to clarify what the “other options” are under the eligibility and Single Farm Payment section.

This has been removed.

Page 5: in note 2 there is reference to “using” ecosystem services that needs to be reworded to clarify that this is about claiming payment for the enhancement of the ecosystem service.

This has been reworded.

Page 6: suggest amend “three main types of peatland” to “three most extensive types of peatland”.

This has been reworded.

Page 17: Consultation requirement: Suggest that consultation is needed on all land holdings, not just those over 10ha.

This has been done.

Page 26: what does “strata” mean in the final paragraph?

Sections – this has been reworded now.

Glossary: this appears to have been based on the Woodland Carbon Code and there are still some references to woodland and afforestation in places.

These references have been removed.

15.17 **SC** : P2 Replace “Greenhouse Gases” with “greenhouse gases”.

Done.

P3 (2nd para) Can we really monitor the climate?; P4 Replace “Effects on adjacent land” with “Potential effects on adjacent land”; P4 (last point) Is it contract lengths of 30 years or benefits for 30 years? See section 2.1

This text has been re-written for the leaflet now.

P5 Replace “sponsoring restoration” with “sponsored restoration”; P6 Replace “in line” with “in line with”

Done

P9 Under requirement – should include cessation of cultivation or cutting? Could also include reprofiling (mentioned on P20).

This requirement has been reworded to be more general now, with details under guidance.

P9 Replace “SSKIB soil map from” with “Soil Survey of Scotland 1:250 000 soil maps from the”; replace “accuracy” with “accuracy at the required scale”; “This soil” - not clear here; replace “lost” with “partially lost”.

Done

P9/10 footnote 7 does not make sense where it talks about too many sites. Using 40 cm will give you more sites than using 50 cm (unless you mean lower in the sense of deeper!).

This footnote has been deleted.

P11 “(or providing an equivalent area of new peatland restoration)” – seems to be a bit of a let-out clause and is not desirable. It would mean starting again when restoration should really be permanent.

This is not intended to be a “get out clause” but to be credible, there need to be credible penalties for non-compliance with the Code.

P24 Replace “result drainage” with “result in drainage”

Done

P26 “direct empirical measurements”- direct measurements for verification would never be economic; the only exception might be sites also selected for research purposes (separately funded).

We agree that it is extremely unlikely that such measurements would be used, but there is no reason to exclude them from the Code.

P29 Definition of “organic soil” is wrong. It seems to be referring to peat at 50 cm but on p9 it has already been decided to use 40 cm (see next definition). However, an organic soil may well have far less organic material (e.g. peaty podzols), it is just a term for a soil as distinct from a mineral soil. Probably best to omit rather than cause confusion.

This has been fixed.

Are we calling this a pilot peatland code or a pilot peatland carbon code (PCC) - in different parts of the document we appear to be using different terms?

This has been standardised to pilot Peatland Code.

Page 2 3rd bullet – good linking to all the research undertaken. One small point - should be referred to as Defra/NE study rather than the NE study

This has been clarified.

The pilot code will be applicable to blanket bog at this point in time so is it worth clarifying this earlier on? The code says that this then applies to 95% of the habitat - does this cover lowland as well as upland as I thought that lowland peatland the science was less developed (and Defra doing work in this area)?

Yes, the Code will apply initially to blanket bog only, which accounts for 95% of peatland habitats. This is now made clearer in section 1.

P3 the code talks about only a limited number of sponsorship opportunities being available – does this risk putting sponsors unnecessarily off?

This has been reworded in the leaflet (the overview section has been deleted).

Will criteria for sponsorship take account of investor needs?

These eligibility criteria have been dropped.

P4: Would be interested to hear about the background to the Princes Countryside Fund and contributions from pilot code.

Market research suggests CSR investors want social benefits in addition to environmental benefits, so PCF was selected as a social fund that could link explicitly to restoration sites, given their focus on upland deprivation. However, in response to feedback, this will now be extended to a menu of social projects for sponsors to choose from.

The draft highlights that issues of combining with agri environment RDPE are under discussion - not quite clear what next steps are here?

This needs to be followed up with Anne Humble from Welsh Assembly Government.

P5 unquantified co-benefits - this makes it sound as if we would not have information on these whereas thought we would be able to get a handle on these co-benefits to some level?

Projects for England highlighted as SWW and South Pennines - I did not think this has yet been fixed so does that make it sound too limiting?

These references have been removed.

P6 UK peatland code designed to provide scientific and regulatory basis - there could be different interpretations of what the regulatory basis relates to (especially now at pilot stage) so wondered if we needed to pick this point up in discussion?

See response to comments under question 12.

P7 use of WCC CBs – have they agreed to this already and who pays?

They have not yet agreed to this, but we are in discussion with them and UKAS, providing there is funding for the Code to become UKAS accredited.

P7 – you may want to at least briefly define what is meant by a group scheme even if we are saying this is not part of pilot.

These have been defined now.

P7 last para found confusing as seems to suggest for pilot phase no need to go further – if we are expecting different sections of the code to be read by different audiences do we need to clarify upfront who needs to read what?

P8 2.1 I'm sure there is a good reason but I did not know why project start date eligibility shifts from jan 2010 to 2 years of start date between end of 2014 onwards? Also do we have any sense of how many might register before end Dec 2014?

The start date has been set early to enable ongoing projects to be included in the pilot phase. No idea of likely numbers.

Section 2.3 - how does this fit within a wider context of carbon reporting guidelines. Defra has recently published greenhouse gas reporting guidelines and wider environmental impacts at:

<https://www.gov.uk/government/publications/environmental-reporting-guidelines-including-mandatory-greenhouse-gas-emissions-reporting-guidance>

This section has been deleted now.

2.6 how much evidence is there to support the 15% assumption – worth testing out further?

This is the same as the Woodland Carbon Code, and can be altered if necessary during the pilot phase.

P14 mentions PCC registry – the WCC registry is about to be launched so wondered how much work will be involved – is that a IUCN project?

This ideally needs to be funded as part of the pilot phase.

P17 talked about sharing of buffers – any more info here?

More detailed guidance will need to be developed during the pilot phase.

P18 group schemes - perhaps need to have an explanation of what this means even if pilot scheme not incorporating

Done

P20 environmental impacts - it was not clear to me quite the level of requirements overall for environmental impacts beyond carbon – this requirement links to specifics around EIAs but would an EIA be required for all proposed projects or only in specific contexts?

Only in specific contexts e.g. if involving tree felling.

P21 – may be worth double checking with Phil Earl re: text for this section which looks fine to me in terms of meaning but this is Phil's policy area and he may want this expressed in a particular way?

Activities that may be included at a later date:

- Projects that seek to avoid peat extraction/peat mining at a specific site. These are excluded because the strong markets for horticultural peat and fuel peat may lead to "leakage emissions", i.e. the shift to extraction from an alternative peatland.

Additionally given DEFRA NEWP commitments re: phasing out horticultural peat means it may be difficult to demonstrate additionality.

This text has been cut down and simplified in response to feedback.

P23 – will the section currently linking to the VCS standard be changed to the new research we have done on carbon metrics?

More detailed methods for calculating baselines are available as part of the VCS methodology for peatland rewetting, available here: <http://v-c-s.org/sites/v-cs.org/files/PRC%20RDP%20GEST%20methodology.pdf>

Done

p24 – we should be publishing this soon and will forward you the link but could you make sure this is updated to Defra/NE work – thanks
Preliminary GESTs for UK peatlands have been published by Natural England here [link].

Done

P27

Co benefits: with respect to text below - how sure are we that it could be layered in this way? Basic peatland restoration can also provide a foundation for other biodiversity creation or restoration projects and, where this land management is additional to the peatland restoration such management could access other income streams such as biodiversity offsetting funding.

We are not sure, but we have been asked to ensure the wording does not preclude this as a future possibility.

We do not provide much detail on how to calculate co-benefits apart from where there is a EIA – do you think this is an issue especially if we are presenting this as a peatland code rather than just peatland carbon code?

See response to comment 12.7

Appendix 3: Market Research Report

February 2013

Prepared by: Alex Inman, Independent Consultant with Mark Reed, Birmingham City University

1. Background

Previous market research on the market for peatland carbon was conducted by BRE in 2009, commissioned by Natural England. This suggested that demand from UK companies and individuals wishing to voluntarily support land-based carbon reduction projects could exceed 1 million tons of carbon reduction per year (and could potentially exceed 10 million tonnes), with demand likely to come from both individuals (e.g. offsetting flights) and corporations with a strong brand link to the UK. However, the report provided little detail about the motivations of different types of companies for investing in peatland restoration, and lacked sufficient detail to inform the development of a Peatland Code.

This document contains a summary report of key findings from market research undertaken under Work Package 2 of the Peatland Code PES pilot research project. The aim of the research was to provide a better understanding of the propensity for businesses to invest in peatland restoration and to create a typology of likely investors. Variations in business attitudes and requirements have been highlighted where identified to help inform the development of the Peatland Code.

2. Methods

A total of 15 interviews were conducted with a sample of businesses from retail, insurance, banking, hospitality and utility sectors that are either currently investing in land-based carbon projects, or have the potential to do so. The majority of interviews (12) were undertaken with businesses from the corporate sector as this was regarded by the research team as the key potential investor market. However, 3 interviews were also undertaken with SME businesses to ensure opinions from 'non-corporate' entities were captured.

Respondents from corporate businesses were senior sustainability professionals and/or carbon managers with a strategic overview of environmental compliance matters within their respective organisations. In the case of SMEs where bespoke sustainability/carbon management personnel do not exist, owners or senior Directors with overarching responsibility for strategic decision-making were interviewed.

Respondents were identified through a combination of research team network contacts, web searching and snowballing (respondent identified leads). All respondents were sent recruitment emails seeking assistance to participate in the research, followed by subsequent telephone interviews. Recruitment and interviewing was undertaken between 7th January – 22nd February 2013.

3. A note on report content

The content in this report represents a synthesised distillation of key points and observations derived from the interviews undertaken. Respondent confidentiality precludes comments being attributed to specific individuals or organisations. Italicised non-attributed verbatim quotations are included within the narrative to help illustrate particular items raised.

4. Main Findings

4.1 Attitudes towards carbon projects

The sample design was structured to include businesses either currently engaged in land-based carbon projects to some degree; or willing to consider investing in land-based carbon projects at some point in the future. Where necessary, it was explained that the first phase of the UK Peatland Code would not permit offsetting, but that this might become possible in a future phase of its development. As such, given the focus of many respondents on offsets, much of the discussion focussed on offsets, and this is still useful for the development of the code. The interviews revealed that businesses vary considerably regarding their experience with, and attitudes towards, land-based carbon projects and carbon offsetting. These background contexts are likely to have a significant bearing on relative propensities to uptake peatland carbon investment in the future; and the mix of peatland project offers which are likely to be required. In broad terms, three categories of business were identified:

- **Businesses for which investing in land-based carbon projects and carbon offsetting is an important component of their carbon management strategy.** These businesses view offsetting as a valuable tool to meet carbon emissions targets (either mandatory or self-imposed) and have detailed knowledge of offsetting options and the carbon credit market. One business interviewed has recently developed economic modelling capabilities to assess the cost:benefit ratios of offsetting compared to further investments in carbon reduction solutions
- **Businesses for which land-based carbon projects and carbon offsetting is a peripheral component of their carbon management strategy.** These businesses are very large carbon emitters (e.g >3m tonnes p.a) and are typified by the energy and transport companies interviewed. For them, the scale of carbon emissions they produce means that carbon offsetting will only ever be able to neutralise a small fraction of the carbon they produce. They also tend to fall under statutory obligations to reduce carbon emissions, and have historically concentrated on investments to meet these targets rather than undertake what they see as *'additional'* carbon offset measures. For this reason, carbon reduction - rather than offsetting - is their prime focus and they have consequently invested relatively little time investigating the pros and cons of different offsetting options. This is not to say they have no interest in carbon offsetting with all but one of the interviewed companies fitting this typology currently investing in some form of carbon offsetting scheme. The important point to note is that their primary motivation for doing so is to fulfil a variety of objectives relating to their corporate social responsibility agenda, rather than the offsetting of carbon per se. As one respondent put it, *'offsetting will always be a token element of our carbon management policy due to the sheer scale of emissions we produce'*. For these businesses, therefore, the co-benefits (non carbon) of land-based carbon projects and carbon offsetting schemes

become particularly important and need to be emphasised to attract potential buyer attention

- **The unaware and/or unconvinced.** All three SMEs interviewed have not engaged with land-based carbon projects or carbon offsetting, either because they perceive no statutory driver or because they have, thus far, seen no marketing advantage in doing so. Those corporate businesses that have thus far not engaged with carbon offsetting have adopted this position due to the perceived reputational risk of being associated with this activity. This standpoint appears to be heavily influenced by the attitudes of key stakeholders. However, there is a growing appreciation within this group that the offsetting market is maturing and becoming more regulated. In addition, the recently published mandatory carbon accounting requirements for public limited companies is stimulating a renewed interest in carbon offsetting. Both these factors suggest these businesses may consider offsetting in the future subject to sufficient reassurances being put in place. One business interviewed already invests in woodland planting schemes for community engagement objectives. These projects are managed by the Woodland Trust and are funded from the proceeds of a particular food product line.

Possibly not surprisingly, those respondents most involved with carbon offsetting as a carbon management tool (i.e the first group outlined above) were the most knowledgeable about the different land-based carbon options available; and were the most concerned about quantification of carbon sequestration outcomes from any given scheme. Because of this, they appear to be the most sceptical audience regarding the efficacy of land-based carbon (offsetting) projects.

4.2 Types of carbon offsetting schemes currently favoured

Respondents involved with carbon offsetting schemes were asked to express their views on their current preferred options. This sequence of questions was considered important by the research team to better understand which features current buyers are looking for and how a peatland carbon option might best be positioned in the marketplace to 'compete' with alternative offerings.

A key finding to emerge from the research is that all companies interviewed are investing almost exclusively in non-UK based schemes. To a certain extent, businesses are currently being forced to go abroad due to a lack of UK schemes in existence. However, a number of respondents were of the view that international schemes, particularly those based in developing countries, offer the best returns from a social/community engagement perspective; characteristics which are considered extremely important *'in the round'* when considering carbon offset investments. *'More than carbon'* is thus a selling point. A favourite option appears to be projects involving the provision of solar powered cooking stoves to families suffering from poverty in developing countries. These schemes have been demonstrated to deliver significant health benefits by eliminating the inhalation of wood smoke from traditional stoves; whilst at the same time resulting in quantifiable reductions in carbon emissions and associated deforestation. Citing solar stove projects as an example, one respondent commented *'how can a UK land based scheme compete with a stove scheme in Africa which will prevent poverty stricken children from getting emphysema'*.

Geographical scope of operation also appears to have a strong influence regarding a desire to invest in international schemes. Respondents representing non-UK owned businesses and particularly businesses with international operations have less interest in the idea of UK

based offsetting schemes than those businesses whose activities are predominantly focussed within the UK. A desire to offset emissions near to where they are created and build community relationships becomes more dissipated where a business has global reach. This fact, allied to a desire to adhere to Kyoto principles of investing in developing countries, strongly suggests that a UK peatlands programme will be a harder sell to multinational corporations than business with a national scope. For this latter group, there would appear to be an appetite for UK schemes, including peatland schemes, provided that social and educational co-benefits can be demonstrated (see above). A key, perhaps obvious, advantage of UK schemes is that they can be visited and verified far more easily than projects operating abroad, which may reassure potential investors.

In terms of the type of scheme invested in – renewable energy, clean technology, or land management based – there is currently a strong preference for technology based offsetting schemes over the land based options. This stems from a belief these schemes carry less risk in terms of not delivering on carbon outcomes. Respondents also considered these schemes to be an *'easier sell'* to their customers and key stakeholders than land management schemes, the benefits from which are *'not always immediately identifiable by the lay person and require greater effort to explain'*.

4.3 Specific attitudes towards land based schemes including peatland restoration

As indicated above, respondents exhibited a general air of scepticism regarding the efficacy of land based schemes to store carbon over the long-term. The recent introduction of the Woodland Carbon Code has helped to improve confidence in woodland carbon schemes although fundamental concerns remain regarding additionality, performance (e.g carbon loss through fires) and double counting.

All respondents bar two equated land based schemes with woodland planting and did not have awareness of other habitat management options including peatland restoration. Woodland planting is seen as having immediate resonance with the general public unlike the restoration of peatlands which, it was suggested, might be considered *'remote, inhospitable and a little abstract....a difficult sell to our customers'*. However, peatlands were considered to have a distinct advantage over woodland in relation to long term carbon storage potential. Having said this, one respondent expressed concern over the long-term viability of peatland carbon storage in the face of climate change predictions.

Where woodland planting and peatland restoration scored highly with respondents was the perceived ability of these projects to be directly linked to a sustainable product sourcing agenda. For example, businesses using wood in their production processes or end products felt carbon offsetting through tree planting could deliver significant marketing benefits from a sustainable sourcing point of view. Similarly, it would seem retailers selling peat based products (e.g plant medium, compost) perceive a benefit from being associated with peatland restoration programmes; given the negative publicity surrounding peat extraction for the horticultural and recreational gardening sectors. Another perceived benefit of peatland projects, cited by respondents from energy providing businesses, would be the ability to offset the landscape and biodiversity impacts of powerline and other infrastructure installations in the immediate vicinity where these disruptions occur.

Given the concerns raised with land based schemes, it is likely – even in relation to those businesses positively disposed to the notion – that very few businesses will be prepared to put all their eggs in one basket i.e place all their offsets with land based projects. When

prompted, respondents suggested they might place 20%-30% of offsets in land-based schemes, the remainder spread across renewable energy and clean technology programmes.

4.4 Attitudes towards the UK Peatland Code proposition

Respondents were asked to comment on particular attributes of the proposed UK peatland code and related peatland restoration programme. The key findings from this exercise are outlined below.

Importance of recording peatland investments within carbon accounting and/or being able to trade peatland carbon on voluntary or compliance markets

A majority of respondents interviewed believed not being able to record peatland carbon within their carbon accounts or trade peatland carbon credits would be a major stumbling block to their involvement. In the words of one respondent, *'if people want to give money away on CSR ventures that's fine by me but we would need a direct business case to justify getting involved'*. However, there were some noticeable exceptions to the rule; particularly amongst those corporate businesses for whom offsetting is a peripheral component of their carbon management strategy. In addition, SME respondents expressed far less interest in carbon accounting and credit trading functionality due to their relatively low levels of interest in the carbon benefits of the proposed peatland programme *per se*.

Importance of co-benefits

Without exception, all respondents would be looking for co-benefits from peatland carbon offsetting projects. As noted above, social/community engagement outcomes are seen as extremely important, which in the case of land-based projects may include, for example, provision of green infrastructure and public access to the environment. In terms of additional environmental outcomes, biodiversity protection/enhancement is top of the list. One company is currently sponsoring research into mango swamp carbon projects due to the envisaged habitat benefits for fish stocks from this type of land use. There is also a significant interest in the protection of high value biodiversity sites, this interest seemingly being driven by stakeholder and customer concerns. One respondent suggested any future peatland carbon programme should promote the uniqueness of UK peatlands to attract the attention of would be investors.

Also important is the conservation and protection of water resources and water quality. Businesses using significant quantities of water, either directly in their operations or embedded within their products, are keen to demonstrate they are taking action to mitigate adverse impacts on the aquatic environment, and see peatland restoration as a potential means of doing this.

Quantification of carbon and other co-benefits

Respondents were asked to comment on the level of accuracy they would want under the code regarding the quantification of outcomes from peatland restoration projects. Responses were highly consistent. For carbon sequestration, precise quantification would be expected if peatland carbon was to be made available for carbon reporting and trading purposes. For co-benefits, respondents appeared to understand the complexities surrounding the measurement of variables such as biodiversity, water purification and flood attenuation. For these benefits, some form of probability distribution underwritten by an

expert panel or recognised authority (e.g Wildfowl and Wetlands Trust) would be sufficient. Those respondents aware of the Woodland Code suggested this might provide an initial template for co-benefit measurement. Others suggested the measurement of co-benefits would need to be developed as a *'transitional process'* over time during which quantification methods would be improved and refined in consultation with project partners.

Management of the Code

Opinions varied regarding institutional arrangements for the governance and operation of the Code. A minority of respondents felt the Code should be sanctioned by government to give it credibility. However, most did not see a need for government involvement, suggesting lack of government regulation within the existing voluntary carbon market has not significantly hampered its development thus far. Of most concern to the majority of respondents was a need for the Code to be developed and managed as an 'independent standard' and for any subsequent carbon credits to be registered to avoid the risk of double counting.

Whilst a small number of respondents appeared to favour the involvement of specific entities in the development and management of the Code – e.g The Carbon Trust, Energy Saving Trust, WWF – the majority expressed no preference. For them, proven scientific competence was the key attribute. All respondents were unanimous in the wish for the Code to be administered by a not-for-profit organisation i.e either public or third-sector, not a commercial business. Developing the Code in partnership with a multi-stakeholder steering group was suggested by several respondents as a way forward.

Joint branding of peatland restoration projects

It is likely that in order to generate sufficient investment to finance a particular peatland restoration project, multiple sources of funding may in some situations be required from more than one donor organisation. This will mean any given corporate investor will not have 'sole ownership' over a specific scheme. Respondents were asked to consider this scenario and express their views accordingly.

With one exception, respondents did not see any problem with being co-contributors to a scheme. Recognition of their investment at site locations is regarded as important (e.g company logos on notice boards) but respondents expressed no concerns having their logos alongside other brands per se. The only stipulation would be that other brands are reputable and not direct competitors. Also, it was felt contributions from investments would need to *'equitable'* whereby a relatively small contributor to a scheme should not be able to free ride on the larger investment of a major investor. In order to maximise brand recognition opportunities whilst recognising the relative size of investments, some respondents articulated the idea of attributing specific *'zones'* of a restoration site to particular funders, apportioned to the size of financial investment made.

Preferred geographical location for investments

It became very clear from the interviews undertaken that businesses positively disposed to UK peatland carbon investment will want to place their investment with projects as near as possible to locations where they have a significant presence i.e locations where they have large numbers of customers or staff. For example, respondents from food retailers

explained they would be interested in peatland restoration sites near major retail outlets. A respondent from a financial services business could see the benefit of investing in sites near their Head Office where a significant proportion of the company's employees reside.

The interest in geographical proximity stems from a belief that it will be much easier to promote the benefits of a given peatlands investment to people who live nearby as opposed to individuals with *'no geographical connection'* to the site in question. Where staff are concerned, respondents believed the opportunity for staff to get *'hands on'* with local peatland restoration programmes would meet a number of workforce development and employee relationship building objectives. A place to accommodate *'team building away days'* would be an additional benefit.

Pricing

Respondents were universally of the view that UK peatland carbon project investments will be more expensive – per tonne of carbon – than *'cheap carbon'* projects based abroad. This was seen as completely acceptable, given the envisaged multiple benefits that will be generated from UK peatland schemes compared to cheap non-domicile options. Where respondents believed they will struggle to build a case in favour of UK peatland carbon premium prices is where these prices significantly exceeded non-UK based projects that also deliver discernable multiple benefits. It is therefore the price differential between UK peatland carbon investments and non-UK based multiple benefit schemes (rather than other UK land-based schemes such as forestry) which is likely to be a key attribute influencing market share for the UK peatland carbon programme going forward.

Linked to a preference to invest in specific sites local to operational activities as outlined above, respondents also reacted favourably to the idea of bespoke pricing. This is where individual UK peatland carbon projects would be priced differently, according to the blend of co-benefits delivered. Respondents believed this transparency would enable potential purchasers to understand the value of their investment, making it easier to *'justify premium prices to boards of Directors and shareholders'*.

The subject of premium prices yielded an additional and, potentially extremely useful, insight into the lack of interconnectedness in corporate decision-making regarding carbon offsetting in general, and the selection of carbon credits (including land-based carbon projects) in particular. It appears to be the case that the management of carbon within the corporate sector, including the purchasing of carbon credits, often takes place in isolation from operational departments. These departments may have an interest in specific co-benefits offered by a given carbon offsetting scheme and may be prepared to build a business case to fund these benefits. However, if they are not consulted when carbon credit options are being chosen, the full extent of their *'willingness to pay'* is not taken into account. Carbon managers, under pressure to purchase cost effective carbon credits, may well go for a cheaper option, precluding the uptake of more expensive premium options capable of delivering optimal co-benefits. One respondent explained this conundrum very clearly: *'the business case to fund premium UK peatland offsets will need to link these offsets to the non-carbon related impacts of the product lines we sell. It will be very difficult to sell the idea of a premium priced scheme unless one or more of our individual business divisions are happy to pay for specific co-benefits produced of relevance to their sphere of operation. Each division will need convincing of the business case'*.

There may well be a need, therefore, for premium carbon schemes such as the proposed UK peatland restoration programme to be marketed at multiple audiences within the business population, not just those specifically responsible for carbon management.

5 Conclusions and Recommendations

Based on the insights gained from the interviews undertaken, it is possible to offer a number of conclusions and recommendations to help guide the development of the UK peatland carbon programme, whether initially on the basis of Corporate Social or in the longer-term, as an offsetting scheme.

In terms of the likely key target market for both the initial roll out (phase 1) of the programme and subsequent phase 2, corporate businesses with a substantial UK customer and/or employee base within relatively close proximity of peatland restoration sites are likely to be most receptive to the peatland carbon agenda. For these businesses, the opportunity to build brand awareness and loyalty with customers, external stakeholders and staff by investing in local peatland projects which deliver multiple social and environmental benefits is an attractive proposition. Given the perceived array of co-benefits derived, this business segment is likely to display a higher propensity to pay a premium price for peatland restoration; provided the benefits can be clearly communicated both internally and externally. This market appears populated both by businesses viewing land based carbon schemes as a genuine carbon management vehicle and those for whom CSR outputs are the main prize. It is also likely that a smaller (in total potential investment terms) market exists within the SME sector amongst businesses for which investing in local peatlands will deliver some form of direct marketing advantage. The prime candidate here is the tourism and leisure sector where a business case between investment in the local environment and increased exposure to current and potential customers can most readily be made. For these businesses, carbon management is not the primary driver behind their interest. Given investment by SMEs is likely to be relatively low (per business) and given that the transaction costs associated with raising, collecting and managing this investment may well be high, careful consideration will need to be given to the business case and mechanisms associated with mobilising this investment.

It will be more difficult to attract investment from corporate sector players with international reach, where the UK is a relatively small part of their total business. As pointed out above, for these businesses, carbon management and social goals have a global dimension. Because they are already able to purchase carbon credits from schemes located abroad that show demonstrable social and educational outcomes, it will be more difficult to sell premium priced UK schemes to these businesses if UK options are more expensive and not able to demonstrate a better cost:benefit ratio.

In all cases, whether businesses display significant interest in UK peatland carbon or only marginal interest, relevant personnel in these businesses will need to be supplied with targeted literature (and accompanying fact files) *'selling the case'*. With one exception, respondents of all types were quick to point out their knowledge and understanding of peatland carbon was very limited and in many cases non-existent. They hope the proposed UK Peatland Code will provide a suitable 'one-stop-shop information hub' to facilitate this learning. It is therefore important that some thought is given to the accompanying information provided alongside the Code, to explain the carbon and co-benefits of peatland restoration in terms that investors and their stakeholders can easily understand. It was possible to detect during the interviewing process that the target audience for the UK Peatland Code – sustainability professionals, carbon managers and those people heading up operation divisions – have very little time, and require succinct and clear messages on peatland performance and outcomes to gain their attention.

It is recommended that to identify an initial shortlist of investors for a peatland carbon scheme (once the Code has been developed), a GIS mapping exercise should be undertaken around each peatland restoration site under consideration. All businesses with a location within a 30-50 mile radius of each site should be identified and screened using a desk-based exercise to identify their position within the proposed typology, size, industry sector and most importantly their scope of operation. Suitable profiling data from business directories such as Dun and Bradstreet or Experian should be employed for this exercise, yielding an initial list of businesses to be approached in the first instance to ascertain their interest in peatland carbon investment.

Appendix 4: Leaflet

Supplied as separate PDF document via this link: <http://www.iucn-uk-peatlandprogramme.org/peatland-code/for-sponsors>