



CPG on Rural Policy: Carbon Credits, Carbon Trading and Natural Capital Market

**5th December 2023
18:00–19:30**

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Natural capital markets – an opportunity or a threat?

Mark Reed

Director, Thriving Natural Capital Challenge Centre, SRUC

Horizon Europe

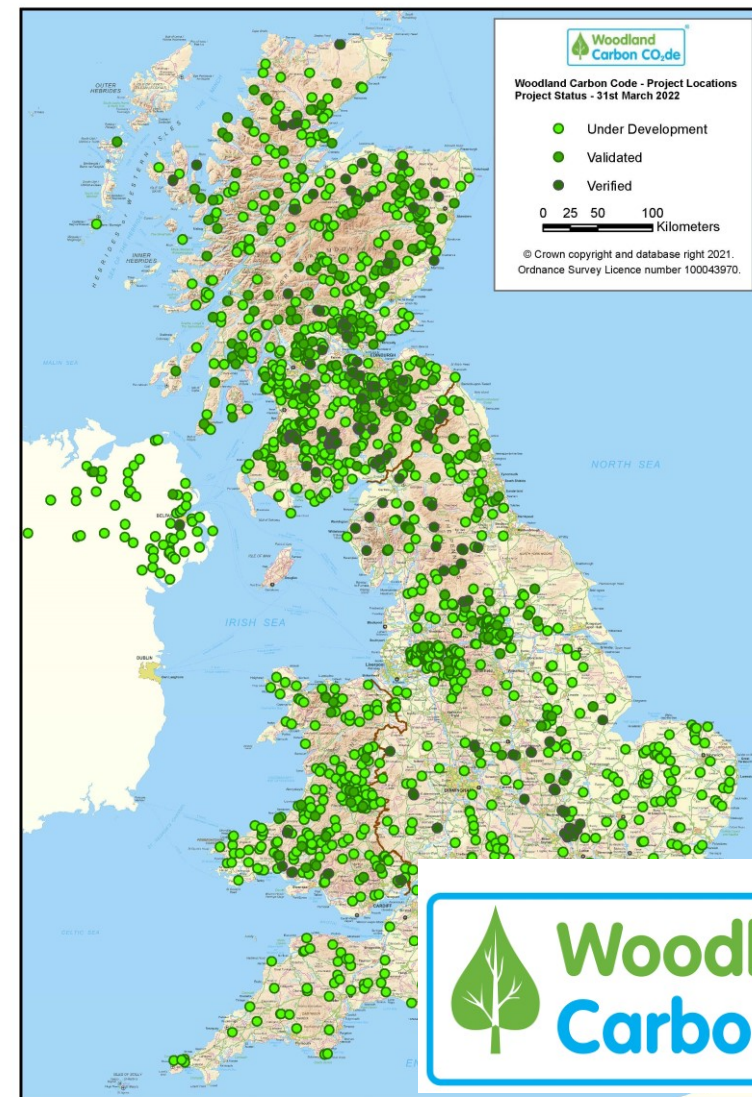
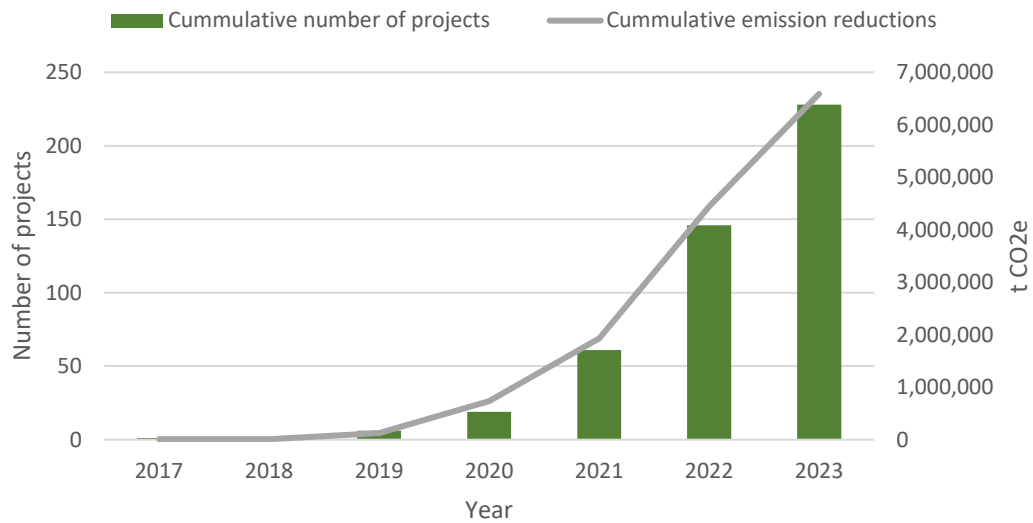
THE NEXT EU RESEARCH & INNOVATION PROGRAMME (2021 – 2027)



UK Research and Innovation



PEATLAND CODE



Defra is targeting a £1 billion annual market by 2030 in England alone
 UK ecosystem markets could be worth up to **£760 Million** annually by 2030

Defra, 2023

Green Finance Institute, 2021

The age of extinction
Carbon offsetting

This article is more than 6 months old

Revealed: more than 90% of rainforest carbon offsets by biggest certifier are worthless, analysis shows

Investigation into Verra carbon standard finds most are 'phantom credits' and may worsen global heating

- **'Nowhere else to go': Alto Mayo, Peru, at centre of conservation row**
- **Greenwashing or a net zero necessity? Scientists on carbon offsetting**
- **Carbon offsets flawed but we are in a climate emergency**

The age of extinction is supported by

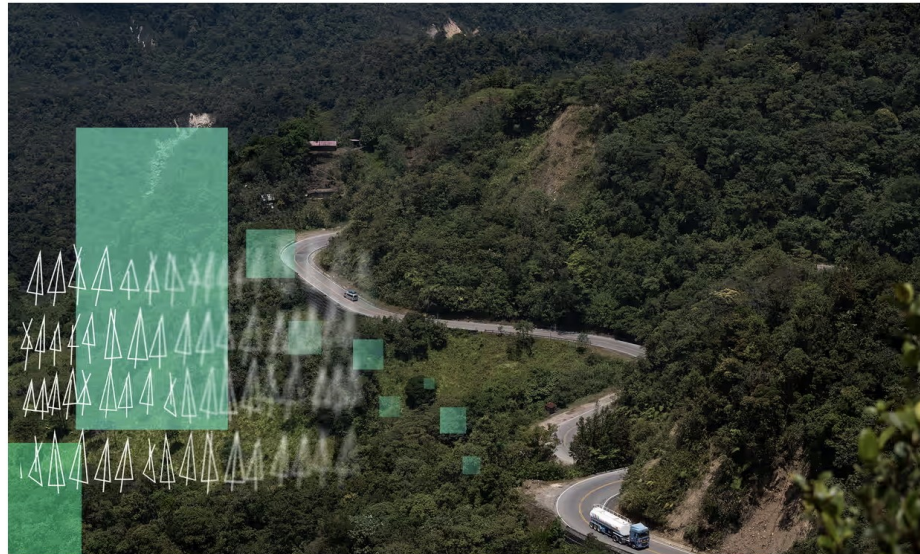
the
guardian
org

About this content

Patrick Greenfield

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Wed 18 Jan 2023 14:00 GMT



The Alto Mayo protection forest in Moyobamba, Peru, was supposed to be a flagship offsetting project but has faced human rights issues. Composite: Guardian Design/AFP/Getty Images



Voluntary Carbon Markets and
Offsetting
October 2022

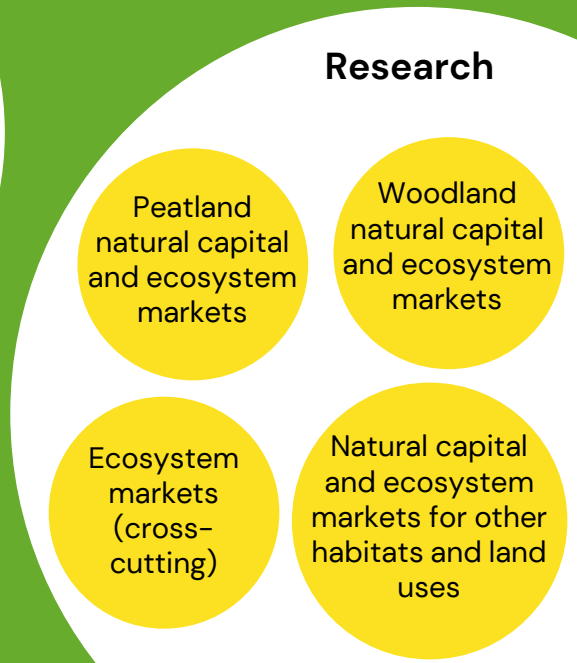
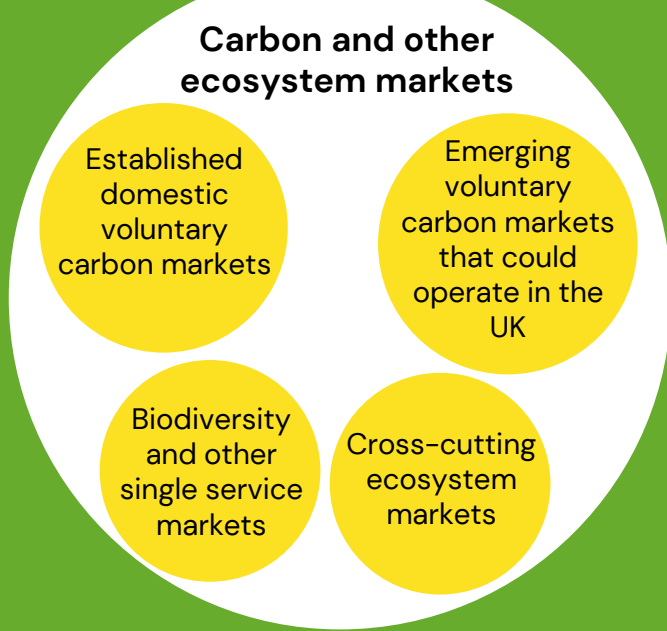


A hand holding a paintbrush with green paint, set against a background of a green wall with white vertical stripes. The image is dimly lit, with the text overlaid in white.

Greenwashing

Market integrity





Reducing direct and indirect emissions

Emission reductions in supply chains

Carbon sequestration and storage in supply chains

Beyond value chain mitigation of emissions and other impacts

Insetting

Voluntary offset markets

Biodiversity

Water quality

Carbon

Peatland

Woodland

Agricultural soils

Natural Flood Management

Agroforestry

Blue carbon

Carbon capture technologies

Ocean recovery

Landscape Recovery

Offsetting

Compliance offset markets

1. UK Emissions Trading Scheme
2. Biodiversity enhancement requirement under National Planning Framework 4 (Scotland)
3. Biodiversity Net Gain (England)
4. Marine Net Gain (England, pending)

A dark, atmospheric landscape of rolling green hills and mountains under a cloudy sky. The foreground is a dense field of green grass, leading up to a valley with more hills. In the background, several mountain peaks are visible, some with patches of snow or light-colored rock. The sky is filled with large, white clouds, and the overall lighting is dim, creating a moody and somewhat somber atmosphere.

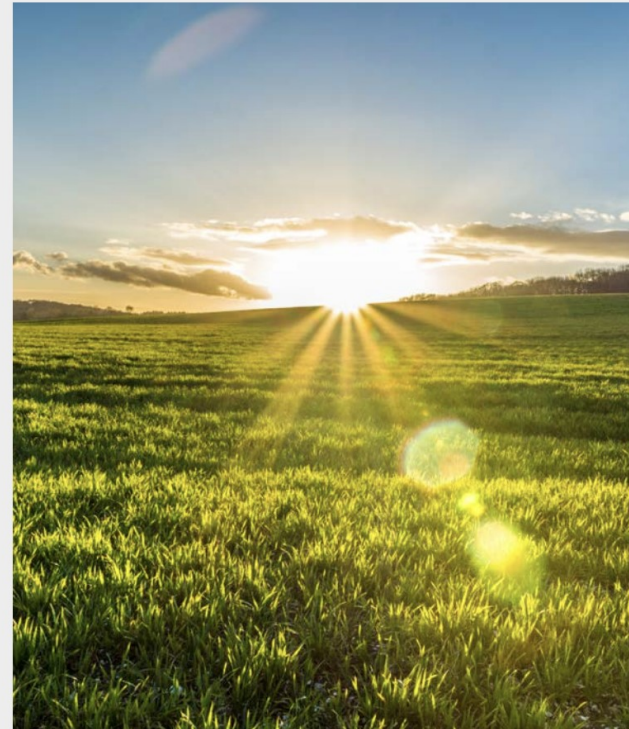
**What's necessary to responsibly scale
natural capital markets?**

We need high integrity markets...

bsi.


Department
for Environment
Food & Rural Affairs

● Nature
Investment
Standards
Programme



...that pay attention to likely winners and losers



Tenants
Crofters
Communities

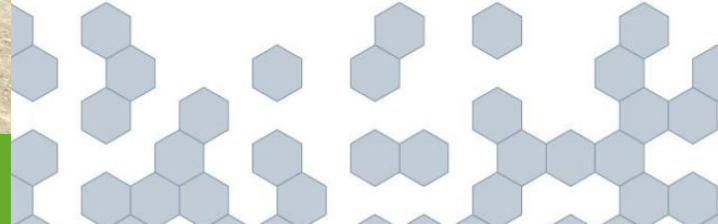
?



The Scottish Government
Riaghaltas na h-Alba

Just Transition
Commission

A national mission for a fairer,
greener Scotland



- Community engagement
- Community benefits
- Tenants and crofters?

Do no harm



Net benefit

Market failures that policy may still need to tackle

- Protecting the interests of communities, tenants and crofters
- Managing interactions between different schemes at landscape scales
- Getting public funding and private finance to work together across the UK (and considering the role of tax)
- Combatting greenwashing – introducing buyer-integrity tests

Horizon Europe

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**UK Research
and Innovation**



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Natural Capital Markets- A Practical Perspective

Cross Party Group on Rural Policy- November 2023

Ben Law

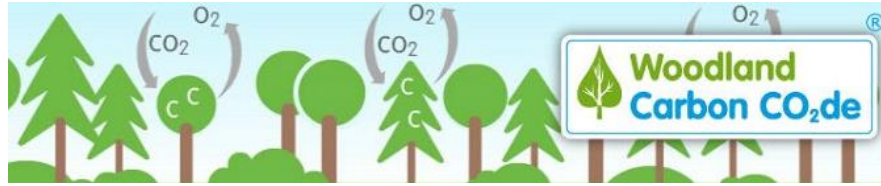


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Part of Scotland's
Rural College (SRUC)

Established NC Markets in UK

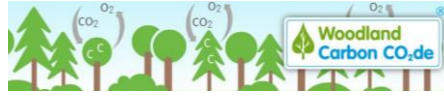


- Established 2011
- Endorsed by ICROA, the Woodland Carbon Code is the voluntary standard for woodland creation projects in the UK
- generates high integrity, independently verified carbon units
- Carbon sequestration resulting from validated projects will contribute to the UK's national targets for reducing emissions of greenhouse gases
- Woodland Carbon Code projects provide social and environmental benefits. These include biodiversity and habitat creation, improvements in health and wellbeing, benefits for farming, local employment and educational opportunities.



- Established 2017
- provides assurance and clarity for business and other investors in peatland restoration projects through independent validation and verification. Works on the basis that during restoration, carbon savings are made through rapid emissions reductions.
- The funding received from the sale of carbon benefit will depend on the extent of damage prior to restoration, the size of the project and the length of the management agreement
- wider associated ecosystem service benefits of restoration (improvement in biodiversity, cleaner water, water flow management)

Established NC Markets in UK



Area of Woodland Carbon Code Projects on the UK Land Carbon Registry – Interim statistics as of 30 September 2023

Area (hectares)	England	Wales	Scotland	Northern Ireland	UK
Under Development	6,574	2,077	37,371	805	46,827
Validated only	2,121	794	21,761	85	24,760
Verified at year 5	697	131	3,915	9	4,751
Total Validated	2,817	924	25,676	94	29,511
All Projects	9,392	3,001	63,047	898	76,338

Table 5a: Number of Woodland Carbon Code projects, UK, 31 March 2023

Project status	England	Wales	Scotland	Northern Ireland	UK
Awaiting validation	596	220	523	126	1,465
Validated only	77	30	218	2	327
Verified	46	6	71	1	124
Total validated	123	36	289	3	451
Total	719	256	812	129	1,916

Source: UK Land Carbon Registry (Scottish Forestry).

Peatland Code projects on the UK Land Carbon Registry

Please note the following information is correct as of 26th of October 2023:

Projects Summary

Total number of Peatland Code projects	228
Total Area of Peatland	31,047ha
Average project size	136.1ha
Average project duration	80 years

Number of Peatland Code projects by Country

Number of Projects	Scotland	England	Wales	Northern Ireland
Under Development	182	32	12	2
Project Validated	58	5	5	0
Restration Validated	12	0	0	0
Verified (at year 5)	0	0	0	0

Natural Capital- Growing Value

Table 7. VCM Transaction Volumes, Values, and Prices, by Project Standard for Trades with Project ID, 2021-2023 (YTD)

STANDARD	2021			2022			2021-2022 PERCENT CHANGE			2023 (YTD)
	VOLUME (MtCO ₂ e)	VALUE (USD)	PRICE (USD)	VOLUME (MtCO ₂ e)	VALUE (USD)	PRICE (USD)	VOLUME	VALUE	PRICE	PRICE (USD)
VERIFIED CARBON STANDARD (VCS)	203.8	\$945M	\$4.64	79.3	724.5M	\$9.14	-61%	-23%	+97%	\$9.06
CLEAN DEVELOPMENT MECHANISM (CDM)	37.7	\$73M	\$1.94	18.2	51.7M	\$2.84	-52%	-29%	+46%	\$2.24
GOLD STANDARD	10.8	\$58M	\$5.42	11.8	98.4M	\$8.35	+10%	+69%	+54%	\$6.25
CERCARBONO	-	-	-	4.1	23.5M	\$5.73	-	-	-	\$4.14
CLIMATE ACTION RESERVE (CAR)	3.1	\$14M	\$4.56	4	28.5M	\$7.18	+28%	+101%	+57%	\$6.58
AMERICAN CARBON REGISTRY (ACR)	1.8	\$22M	\$12.14	1.8	36.6M	\$19.85	+1%	+65%	+64%	\$9.50
PLAN VIVO	2.3	\$23M	\$9.92	1.2	16.3M	\$13.29	-46%	-28%	+34%	\$12.49
UK WOODLAND CARBON CODE (WCC)	0.233	\$4.7M	\$20.25	0.212	5.2M	\$24.41	-9%	+10%	+21%	\$30.81
CANADIAN STANDARDS ASSOCIATION (CSA)	0.062	\$177,190	\$2.84	0.161	620,400	\$3.85	+159%	+250%	+36%	-
UK PEATLAND CODE	-	-	-	11,416	351,696	\$30.81	-	-	-	-





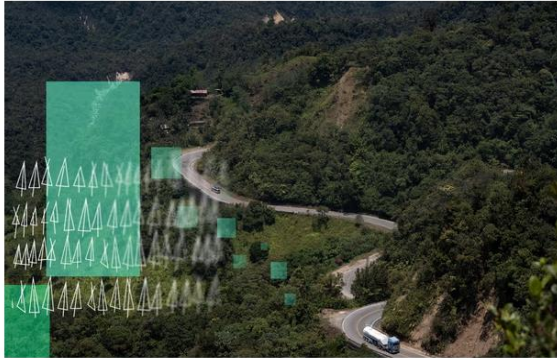
Positives of NC markets

- Encourages responsible stewardship of land
- Incentivises positive change
- Facilitates access to private funding streams to deliver positive tangible outcomes (Natural Capital Financing)
- Bridges the gap in financing Natural Capital projects that has resulted from rising costs/stagnating grant support
- Supports ecosystems through sustainable management, conservation and restoration- can also yield economic benefits, in addition to environmental and social benefits

Revealed: more than 90% of rainforest carbon offsets by biggest certifier are worthless, analysis shows

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- **'Nowhere else to go': Alto Mayo, Peru, at centre of conservation row**
- **Greenwashing or a net zero necessity? Scientists on carbon offsetting**
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▣ The Alto Mayo protection forest in Moyobamba, Peru, was supposed to be a flagship offsetting project but has faced human rights issues. Composite: Guardian Design/AFP/Getty Images



Photo: SFRS

Barriers for NC market growth

- Valuation of natural capital
- Sale contracts
- Threats
 - Changing Climate
 - Pests & Diseases
 - Public Perception
 - Changing Regulation
- Taxation
- Additionality
- Rising costs
- Policy & Grants "Doldrums"
- Industry-wide skills shortage
- Slow/frustrating approvals process
- Long term investment, with long lead-in/development time, in an uncertain market



Carbon Markets, Public Interest and Landownership in Scotland

A discussion paper

Dr Jill Robbie
Dr Giedre Jokubauskaite

May 2022



A Need for Clarity, Balance, and a Science-led Approach

Packham hits out at 'bonkers' Scottish tree-planting

Naturalist says we need 'the right trees planted the right way' but condemns forests of non-native Sitka spruce



The present plan is damaging habitats, driving out birds and being perceived as a moneymaker, says Chris Packham

BBC

Chris Packham, the television naturalist, has said that trying to tackle climate change by planting millions of non-native trees "is misguided" and could do more harm than good.

"Packham, however, fears that swathes of "cheap upland" regions are being cleared for plantations that will be felled within decades for commercial timber"



The carbon balances of two contrasting forest stands growing in the UK

Matthew Wilkinson, Georgios Xenakis and James Morison

September 2023

"The average overall long-term net ecosystem carbon dioxide uptake was 53% higher at the spruce forest compared with the oak forest"

"The carbon stocks in... the spruce trees alone were approximately 1.7 times larger than in the older oak trees"

Rewilding, or just a greenwashed land grab? It all depends on who benefits
Eleanor Salter

Such schemes should be celebrated only when local people and democratic institutions lead the way

Sat 28 May 2022 10.00 BST



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"The average price of land in Scotland has jumped by 87% in the last year." Photograph: Marcel Nicolai/Getty Images/EyeEm

"a generation of green lairds
or eco-aristocrats"?

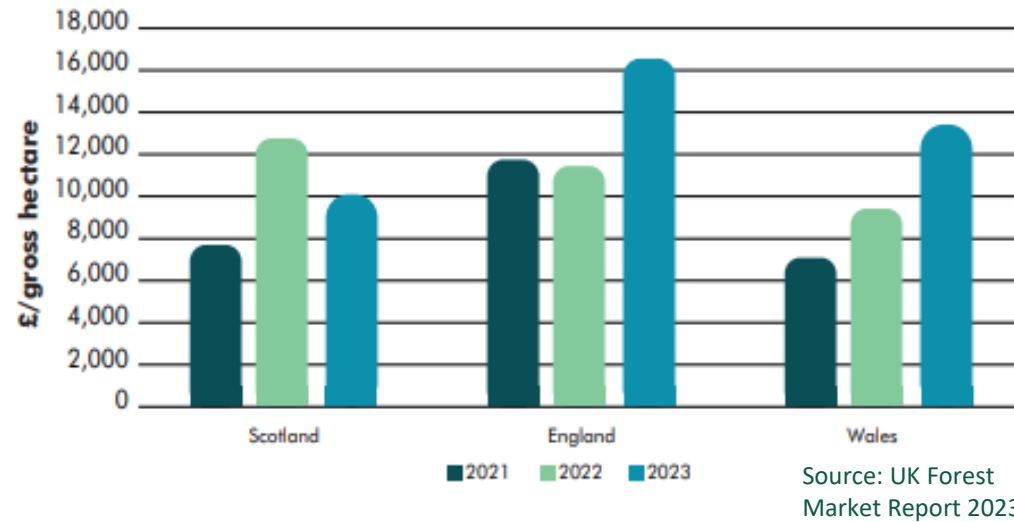
"Rarely does corporate rewilding consider the displacement of communities living and working on the land. It is also having impacts on agriculture"

Natural Capital; at a critical juncture?

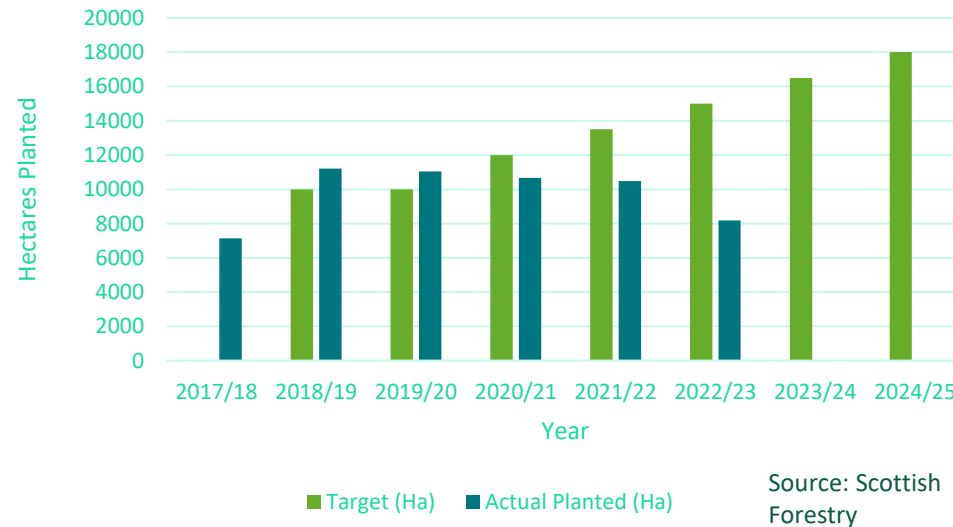
- Whilst commercial planting land prices in Scotland dropped 22% last year, English and Welsh values rose by 42%



Average price per hectare



Target vs Actual Planted Areas in Scotland (Ha)



“

for the second year in a row, broadleaf planting has surpassed that of productive conifer at 51% of all planting across the UK.”

– UK Forest Market Report 2023



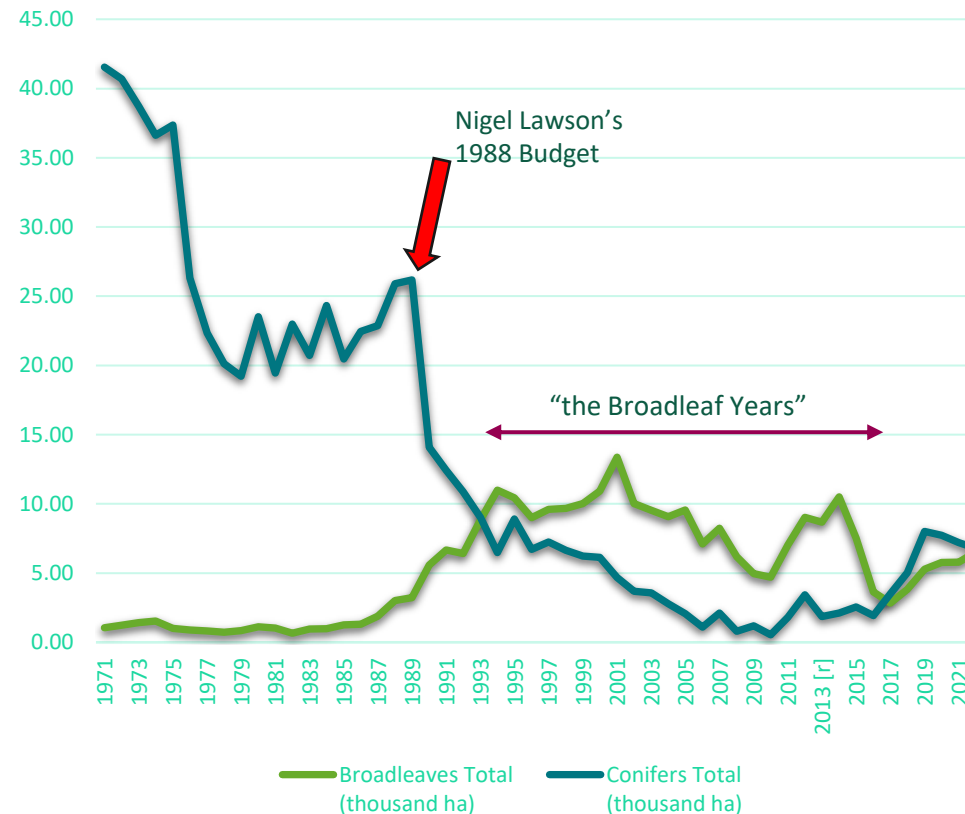
The UK is the third largest net importer of forest products in the world"

- Forest Research: Forestry Facts and Figures 2023



Unintended consequences of getting it wrong?

New planting in Great Britain, 1971 - 2022



Source: Forestry England, Forestry Commission, Forestry and Land Scotland, Scottish Forestry, Natural Resources Wales

“

The planting of predominantly broadleaf species in recent decades has reduced the future availability of softwood timber”

What is the rural sector asking for?

- Agree impartial metrics to value Natural Capital
- Integrated Policy Framework
- Public Awareness and Education
- Renewed Financial Incentives
- Integration of Technology
- Longer-Term Planning
- Clear Leadership from Policymakers
- Grow Industry Capacity & Specialist Skills
- Improve Monitoring and Reporting Mechanisms
- Sector-Wide Collaboration and Stakeholder Engagement





The impact of carbon markets on rural communities and land reform and community wealth building

Dr Josh Doble
Community Land Scotland
Josh.doble@communitylandscotland.org.uk

Tarras Water, Tarras Valley Nature Reserve, Langholm



FEARANN
COIMHEARSNACHD
NA H-ALBA

COMMUNITY
LAND
SCOTLAND

- Community Land Scotland was established in 2010 to provide a collective voice for community landowners in Scotland - we have over 120 member organisations across Scotland, ranging from community landowners of major crofting estates in the Western Isles to inner city community hubs in diverse communities
- Carbon markets and the perceived potential of other natural capital markets, such as biodiversity credits, are playing a significant role in the inflation of land prices and the growth of investor interest in Scottish land – as the Scottish Land Commission’s market insights report 2023 demonstrated.
- We have had to become increasingly cognisant of carbon markets due to the undeniable impact, they are having on the Scottish land market, investor interest and current debates about who and what Scotland’s land is for



Ethical and practical concerns

- Market based solution to a market-based problem – if you incentivise investors in this way you have to think about underlying inequality of societal and economic structures
- Communities further excluded from opportunities to own land or have a say over land use in their areas
- Environmental gains will be difficult to measure, monitor and report – especially for biodiversity
- This is a highly speculative, futures market – with investment returns based on the assumption of an ever increasing carbon unit prices
- What is a guaranteed return (at the moment) is investors purchasing land – this is an inflationary hedge for investors
- Carbon market is small, not many buyers and difficult to see where they will come from
- If the buyers of units are only offsetting unavoidable emissions then this is business as usual
- We need to work at pace and scale to decarbonise the economy and change our production, consumption and transportation habits – that is what will actually deliver a zero carbon Scotland
- Current FGS and Peatland Restoration schemes are under used – they do not spend their allocation every year – more than a financial question



Impact on the land market

1. Investor interest in land for carbon sequestration is pushing up prices so that communities, or indeed any organisation or individual without huge wealth, cannot engage in the land market
 - Investors who purchase Scottish land under the premise of engaging in the markets can simply talk up the carbon market and the value of their land increases
 - They can also access generous subsidy to carry out tree planting or peatland restoration and then sell the credits generated.
2. Land ownership is what opens the door to be able to sell the claim of carbon sequestration – it is exacerbating existing inequalities
 - Ownership of land is what makes carbon units valuable as land provides the means of hosting carbon projects
 - This will increase inequality in both income and wealth as the benefits are felt mainly by companies and individuals who already own large tracts of land or can purchase land – Scotonomics 2023
 - The extent to which revenue will return to the local communities and their democratic involvement has not happened to date and is doubtful in the future – Scottish Land Commission 2022



Impact on community wealth building

- We need a means of securing benefits for the people of Scotland – not just investors and landowners
- Not the current extractive economic model which undermines community wealth building

As an example – forestry – the chief means of meeting carbon targets has failed communities:

- Generous subsidies sunk into corporate investors who give that public money to shareholders
- Tree planting schemes in upland areas, on deep peat, has often been an ecological disaster
- Land prices are sky rocketing due to the amount of money to be made through subsidy, land price and commercial forestry profits
- Communities have no say over the land use change

Landowner or community:

- Sometimes landowners are part of the community, but often they are not, especially not in large industrial afforestation projects with land trading as an international commodity
- Even if the landowner does live locally, the benefits from that carbon project go to the landowner, not the rest of the community who have to live with the significant land use change



Potential ways forward

Can a model be developed which keeps wealth locally and also provides more oversight?

Carbon lease or carbon commons models:

- All credits initially kept in a 'carbon commons'
- Could be regional or national management – it would mean all carbon credits would be accredited through a Scottish body and held until due diligence is met
- E.g. DEFRA administered Woodland Carbon Guarantee Scheme - we could follow this model but lock in community benefit, provide proper oversight of schemes and purchasers
- Scotland has finite potential for carbon sequestration – we may end up selling all of this off cheaply to investors now when we need to maintain a bank of credits for future use

Thriving Community Partnership model:

- How to lock in community agency and empowerment when communities don't own the land
- Need to make sure significant land use change has a social license to operate and is done with communities
- Financial and non-financial benefits with oversight of governance and management
- Currently no 'community benefit' as part of carbon sequestration schemes



The UK Saltmarsh Code

CPG Rural Policy: Carbon Credits,
Carbon Trading and Natural Capital
Market

Annette Burden

05.12.23



UK Centre for
Ecology & Hydrology



The voluntary carbon market

Where carbon credits are purchased by organisations for voluntary use rather than to comply with legally binding emissions reduction obligations.

A voluntary certification standard to attract private funding for habitat restoration projects in exchange for climate benefits.

Evidence-based approach, providing assurances to buyers that climate benefits are real, quantifiable, additional, and permanent



The voluntary carbon market in the UK



- Launched 2011
- 1 million tonnes of carbon dioxide equivalent (tCO2e) have been validated
- 28% annual average growth rate 2018 - 2022



- Launched 2015
- 500,000 tonnes of carbon dioxide equivalent (tCO2e) have been validated
- 6 fold increase in 2022

bsi.

The Nature Investment Standards Programme



A high-integrity standards framework for UK nature markets

Download the free report

- Sponsored by Defra, launched in March 2023.
- To support UK nature markets in demonstrating high integrity
- Will create overarching principles and investment standards



UK Centre for Ecology & Hydrology

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1147397/nature-markets.pdf
<https://www.bsigroup.com/en-GB/about-bsi/uk-national-standards-body/sustainability-and-climate-action/nature-investment/>

ceh.ac.uk

23

The annual Greenhouse Gas Inventory (GHGI)

- Required for UK's submission under the 1992 UN Framework Convention on Climate Change (UNFCCC), and satisfies legal obligations under the Kyoto Protocol.
- Also used for setting carbon budgets under the UK Climate Change Act (2008) and equivalent legislation in the Devolved Administrations.
- **Nationally Determined Contributions (NDCs)** are national plans detailing how countries will reduce emissions and adapt to the impacts of climate change.

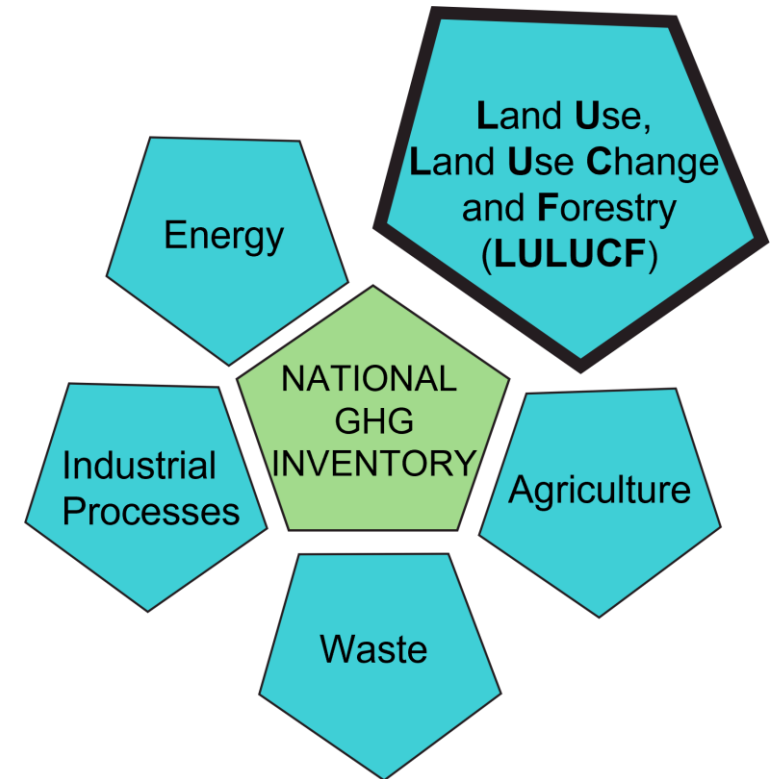
Commonalities

Both seek to determine the carbon/greenhouse gas (GHG) emissions and removals that occur as a result of land-use change.

Differences

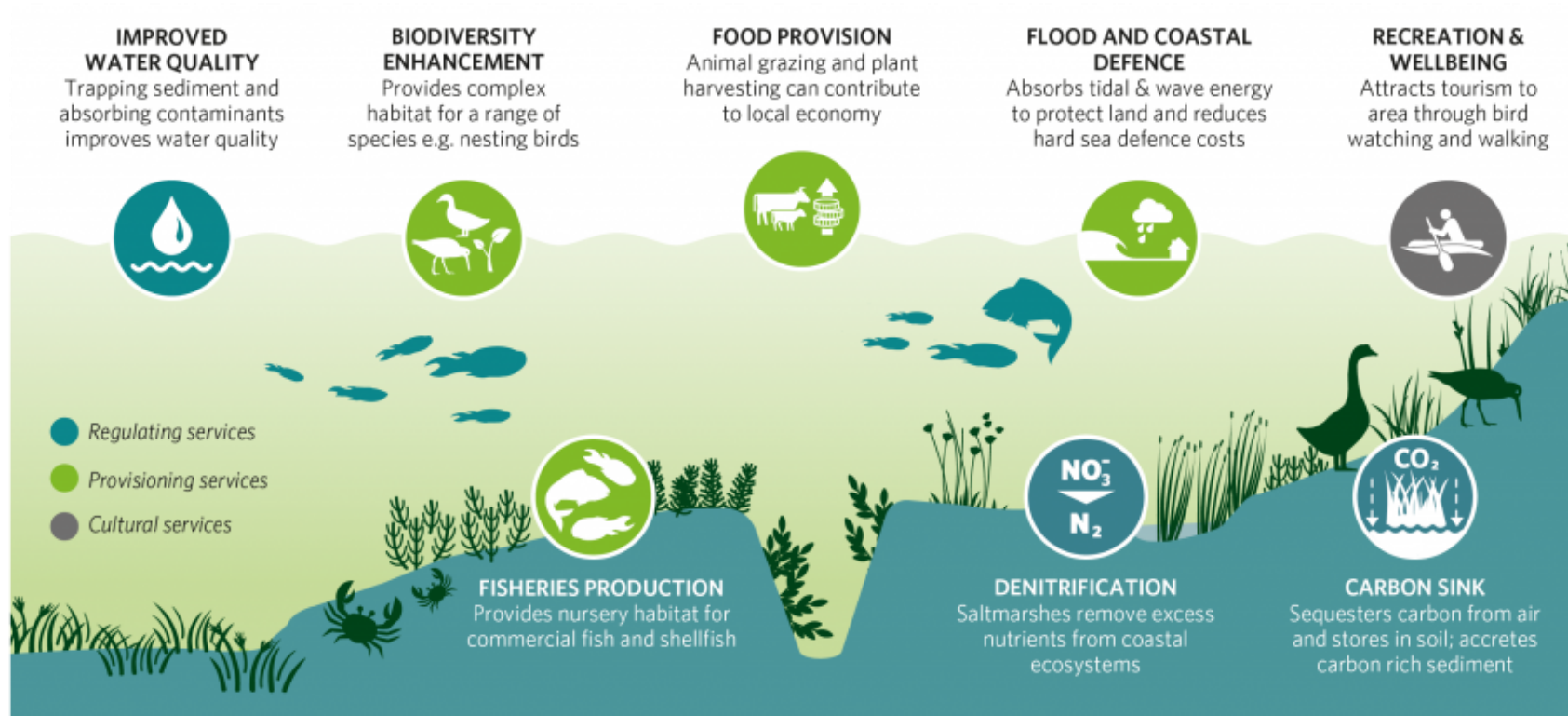
Arise primarily due to the scale of application:

- Code applied at a project level
- Inventory implementable at a UK/individual country scale.



Why develop a Saltmarsh Code

ECOSYSTEM SERVICES PROVIDED BY SALTMARSHES.



Hudson, R., Kenworthy, J. and Best, M. (eds) (2021). Saltmarsh Restoration Handbook: UK and Ireland. Environment Agency, Bristol, UK.



Environment Act 2021

The UK Saltmarsh Code: Project overview

The project team:

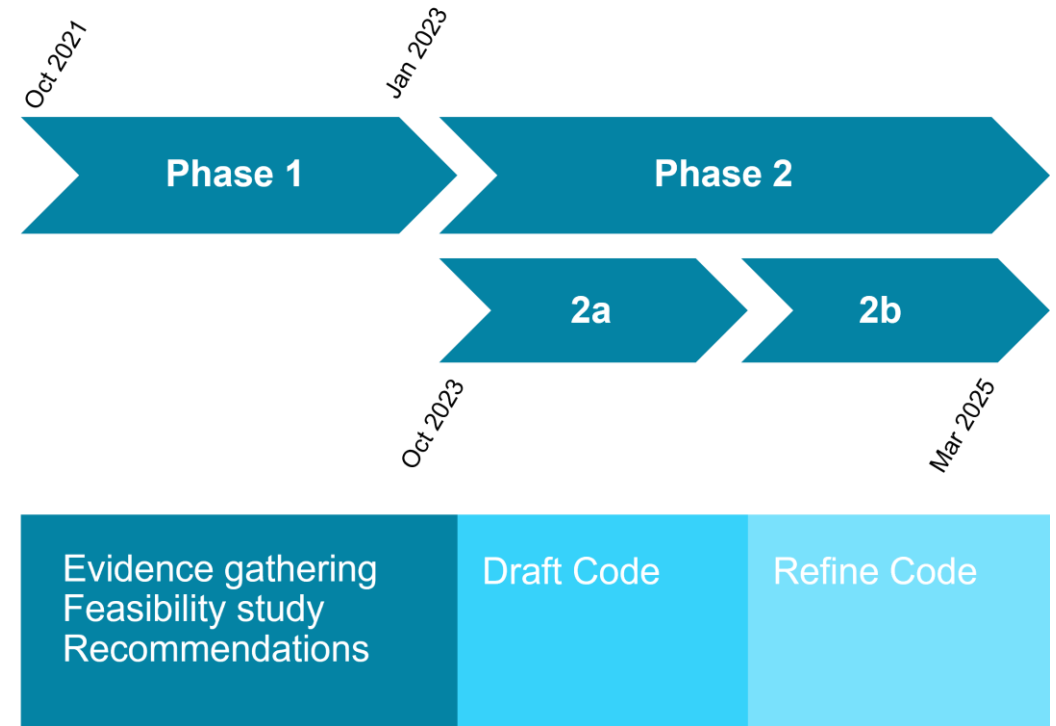
A consortium including scientific, conservation delivery, and investment finance experts across the charity, finance, and academic sectors.



Funded by:



Project progress:



The UK Saltmarsh Code: Phase 2

Draft Code – 3 objectives

The Science	Critical scientific synthesis to inform accuracy and functioning of Saltmarsh Code. Includes development of MRV.
Code Design	All documentation and tools compiled. Including Risk, GHG quantification, and construction/maintenance emissions tools.
Code management and governance	Discussed with relevant bodies and established in principle. Includes agreeing host, registry, and VVBs.

Refine Code

Piloting/testing stage, and further development tbc.
Including developing the business model and financial modelling.
Consideration of other saltmarsh management/restoration activities





RSPB Skinflats Site inundated at a very high tide (Photo credit: James Leonard/RSPB)

**Advancing the UK Saltmarsh
Code in Scotland:
To enable the creation of an
innovative saltmarsh carbon
standard that is applicable
across the UK.**



UK CEH

finance  **earth**

*For further information, please contact:
sanne@finance.earth, anrd@ceh.ac.uk*

The objective of this FIRNS development project is to enable the advancement of the UK Saltmarsh Code and the development of a values-led high-integrity saltmarsh carbon market.



Review potential for Scottish saltmarsh restoration by undertaking desktop research on Scottish saltmarsh sites and developing carbon proxies based on site data.



Develop a business case for 2 Scottish saltmarsh sites by expanding data gathering, refining verification costs, conducting financial modelling and undertaking stakeholder engagement with potential sellers, buyers, investors, local authorities, regulators and local communities.



Inform advancement of UK Saltmarsh Code and key Scottish policy developments by analysing Scottish policy and funding mechanisms and integrating learnings into the development of the Code.

Thank you for listening.

For more information please contact: anrd@ceh.ac.uk

