This and other documents can be made available in other formats such as large print and/or community languages on request. If you would like a translated copy, please contact the presenter with the details of the format/language required.
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.
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 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
Greenwashing
Market integrity
Voluntary offset markets

- Biodiversity
- Water quality
- Natural Flood Management
- Landscape Recovery

Carbon
- Peatland
- Agricultural soils
- Blue carbon
- Carbon capture technologies

Woodland

Agroforestry

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

Offsetting

Compliance offset markets

1. UK Emissions Trading Scheme
2. Biodiversity enhancement requirement under National Planning Framework 4 (Scotland)
3. Biodiversity Net Gain (England)
What’s necessary to responsibly scale natural capital markets?
We need high integrity markets...
...that pay attention to likely winners and losers

Tenants
Crofters
Communities?
- 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
Mark Reed
www.profmarkreed.com
www.sruc.ac.uk/research/challenge-centres/thriving-natural-capital/
mark.reed@sruc.ac.uk
@profmarkreed
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

<table>
<thead>
<tr>
<th>Area (hectares)</th>
<th>England</th>
<th>Wales</th>
<th>Scotland</th>
<th>Northern Ireland</th>
<th>UK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under Development</td>
<td>6,574</td>
<td>2,077</td>
<td>37,371</td>
<td>805</td>
<td>46,827</td>
</tr>
<tr>
<td>Validated only</td>
<td>2,121</td>
<td>794</td>
<td>21,761</td>
<td>85</td>
<td>24,760</td>
</tr>
<tr>
<td>Verified at year 5</td>
<td>697</td>
<td>131</td>
<td>3,915</td>
<td>9</td>
<td>4,751</td>
</tr>
<tr>
<td>Total Validated</td>
<td>2,817</td>
<td>924</td>
<td>25,675</td>
<td>94</td>
<td>29,511</td>
</tr>
<tr>
<td>All Projects</td>
<td>9,392</td>
<td>3,001</td>
<td>63,047</td>
<td>898</td>
<td>76,338</td>
</tr>
</tbody>
</table>

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

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

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 |
## Natural Capital – Growing Value

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

<table>
<thead>
<tr>
<th>STANDARD</th>
<th>2021</th>
<th>2022</th>
<th>2021-2022 PERCENT CHANGE</th>
<th>2023 (YTD)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>VOLUME (MCO₂)</td>
<td>VALUE (USD)</td>
<td>PRICE (USD)</td>
<td>VOLUME (MCO₂)</td>
</tr>
<tr>
<td>Verified Carbon Standard (VCS)</td>
<td>203.8</td>
<td>$945M</td>
<td>$4.64</td>
<td>78.3</td>
</tr>
<tr>
<td>Clean Development Mechanism (CDM)</td>
<td>37.7</td>
<td>$73M</td>
<td>$1.94</td>
<td>18.2</td>
</tr>
<tr>
<td>Gold Standard</td>
<td>10.8</td>
<td>$453M</td>
<td>$6.42</td>
<td>11.6</td>
</tr>
<tr>
<td>CerCarbono</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4.1</td>
</tr>
<tr>
<td>Climate Action Reserve (CAR)</td>
<td>3.1</td>
<td>$11M</td>
<td>$4.66</td>
<td>4</td>
</tr>
<tr>
<td>American Carbon Registry (ACR)</td>
<td>1.8</td>
<td>$22M</td>
<td>$12.14</td>
<td>1.8</td>
</tr>
<tr>
<td>Plan Vivo</td>
<td>2.3</td>
<td>$23M</td>
<td>$9.92</td>
<td>1.2</td>
</tr>
<tr>
<td>UK Woodland Carbon Code (WCC)</td>
<td>0.233</td>
<td>$4.7M</td>
<td>$23.25</td>
<td>0.212</td>
</tr>
<tr>
<td>Canadian Standards Association (CSA)</td>
<td>0.002</td>
<td>$171,390</td>
<td>$2.84</td>
<td>0.181</td>
</tr>
<tr>
<td>UK Peatland Code</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>11,416</td>
</tr>
</tbody>
</table>

### Volume Weighted Price Per PIU (WCC) - Nominal Terms

![Graph showing volume weighted price per PIU (WCC) for 2021, 2022, and 2023 (**Part Year) with values $14.93, $19.13, and $25.36 respectively.](attachment:image.png)
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
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
Packham hits out at ‘bonkers’ Scottish tree-planting

Naturalist says we need ‘the right tree planted the right way’, but condemns forests of non-native Sitka spruce

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.

“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”

“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%.

“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
Unintended consequences of getting it wrong?

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

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

– Forest Research: Forestry Facts and Figures 2023

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

**Woodland Carbon CO₂de**
- Launched 2011
- 1 million tonnes of carbon dioxide equivalent (tCO₂e) have been validated
- 28% annual average growth rate 2018 - 2022

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

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

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.

https://naei.beis.gov.uk/reports/
Why develop a Saltmarsh Code

ECOSYSTEM SERVICES PROVIDED BY SALTMARSHES.

- **IMPROVED WATER QUALITY**
  - Trapping sediment and absorbing contaminants improves water quality

- **Biodiversity Enhancement**
  - Provides complex habitat for a range of species e.g., nesting birds

- **Food Provision**
  - Animal grazing and plant harvesting can contribute to local economy

- **Flood and Coastal Defence**
  - Absorbs tidal & wave energy to protect land and reduces hard sea defence costs

- **Recreation & Wellbeing**
  - Attracts tourism to area through bird watching and walking

---

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.

Project progress:

Funded by:
The UK Saltmarsh Code: Phase 2

Draft Code – 3 objectives

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

Refine Code

Piloting/testing stage, and further development tbc.
Including developing the business model and financial modelling.
Consideration of other saltmarsh management/restoration activities
Advancing the UK Saltmarsh Code in Scotland:
To enable the creation of an innovative saltmarsh carbon standard that is applicable across the UK.

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